Technical Specification Group Terminals Meeting #15, Jeju island, Korea, 6 - 8 March 2002 TSGT#15(02)0041 page 1 of 3

Source:	T1
Title:	CR's to TS 34.123-1 v4.1.0 on corrections
Agenda item:	5.1.3
Document for:	Approval

This document contains 29 CRs to TS 34.123-1 v4.1.0 on corrections to existing test cases. These CRs have been agreed by T1 and are put forward to TSG T for approval.

NOTE: TS 34.123-1 R99 and TS 34.123-1 Rel-4 were merged at T#13. This means that test cases for both releases are included in TS 34.123-1 Rel-4 and therefore this is the only release being maintained.

CR related to corrections to idle mode test cases:

Spec	CR	Rev	Release	Subject	Cat	Version	Version	Doc-2nd-	Work	Releases
						Current	New	Level	item	affected
34.123-1	131		Rel-4	Update of Idle mode tests	F	4.1.0	4.2.0	T1-020038	TEI	R99, Rel-4

CR related to corrections to MAC and RLC test cases:

Spec	CR	Rev	Release	Subject		Version Current	Version New	Doc-2nd- Level	Work item	Releases affected
34.123-1	140		Rel-4	Changes to MAC conformance test 7.1.1.1	F	4.1.0	4.2.0	T1-020047	TEI	R99, Rel-4
34.123-1	141		Rel-4	Changes to MAC conformance test 7.1.1.2	F	4.1.0	4.2.0	T1-020048	TEI	R99, Rel-4
34.123-1	142		Rel-4	Changes to MAC conformance test 7.1.1.3	F	4.1.0	4.2.0	T1-020049	TEI	R99, Rel-4
34.123-1	143		Rel-4	Changes to MAC conformance test 7.1.1.4	F	4.1.0	4.2.0	T1-020050	TEI	R99, Rel-4
34.123-1	144		Rel-4	Changes to MAC conformance test 7.1.1.5	F	4.1.0	4.2.0	T1-020051	TEI	R99, Rel-4
34.123-1	145		Rel-4	Changes to MAC conformance test 7.1.1.8	F	4.1.0	4.2.0	T1-020052	TEI	R99, Rel-4
34.123-1	146		Rel-4	Changes to MAC conformance test 7.1.2.2.1	F	4.1.0	4.2.0	T1-020053	TEI	R99, Rel-4
34.123-1	147		Rel-4	Changes to MAC conformance test 7.1.2.4	F	4.1.0	4.2.0	T1-020054	TEI	R99, Rel-4
34.123-1	148		Rel-4	Changes to MAC conformance test 7.1.2.5	F	4.1.0	4.2.0	T1-020055	TEI	R99, Rel-4
34.123-1	149		Rel-4	Changes to MAC conformance test 7.1.3.1	F	4.1.0	4.2.0	T1-020056	TEI	R99, Rel-4
34.123-1	159		Rel-4	Correction of MAC conformance test 7.1.2.1.1	F	4.1.0	4.2.0	T1-020089	TEI	R99, Rel-4
34.123-1	160		Rel-4	Correction of MAC conformance test 7.1.2.3.1	F	4.1.0	4.2.0	T1-020090	TEI	R99, Rel-4
34.123-1	150		Rel-4	Changes to RLC conformance test 7.2.3.20	F	4.1.0	4.2.0	T1-020057	TEI	R99, Rel-4
34.123-1	151		Rel-4	Changes to RLC conformance test 7.2.3.25	F	4.1.0	4.2.0	T1-020058	TEI	R99, Rel-4

CR related to corrections to PDCP test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd- Level	Work item	Releases affected
34.123-1	135		Rel-4	Clause 7.3, PDCP testing: Update	F	4.1.0	4.2.0	T1-020042	TEI	R99, Rel-4

CR related to corrections to RRC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version	Version	Doc-2nd-	Work	Releases
						Current	New	Level	item	affected
34.123-1	130		Rel-4	Correction to Annex A	F	4.1.0	4.2.0	T1-020037	TEI	R99, Rel-4
34.123-1	133		Rel-4	Corrections to RRC test cases, 8.2.2 onwards	F	4.1.0	4.2.0	T1-020040	TEI	R99, Rel-4
34.123-1	134		Rel-4	orrections to default message content for FDD F 4.1.0				T1-020041	TEI	R99, Rel-4
34.123-1	136		Rel-4	Corrections to clause 8.1	F	4.1.0	4.2.0	T1-020043	TEI	R99, Rel-4
34.123-1	137		Rel-4	Correction to RRC test cases	F	4.1.0	4.2.0	T1-020044	TEI	R99, Rel-4
34.123-1	138		Rel-4	Corrections to Measurement test cases	F	4.1.0	4.2.0	T1-020045	TEI	R99, Rel-4
34.123-1	154		Rel-4	Section 8.1 Connection Management Procedure (TDD both modes)	F	4.1.0	4.2.0	T1-020061	TEI, LCR-TDD	R99, Rel-4
34.123-1	158		Rel-4	Section 8.2 Radio Bearer Control Procedure (TDD both modes)	F	4.1.0	4.2.0	T1-020065	TEI, LCR-TDD	R99, Rel-4

CR related to corrections to MM, GMM and SM test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd- Level	Workitem	Releases affected
34.123-1	132		Rel-4	Update to GMM test cases	F	4.1.0	4.2.0	T1-020039	TEI	R99, Rel-4
34.123-1	156		Rel-4	Modifications of MM test cases	F	4.1.0	4.2.0	T1-020063	TEI	R99, Rel-4
34.123-1	152		Rel-4	Modifications on Session Management test case 11.1.1.1	F	4.1.0	4.2.0	T1-020059	TEI	R99, Rel-4
34.123-1	153		Rel-4	Modifications on Session Management test case 11.1.2	F	4.1.0	4.2.0	T1-020060	TEI	R99, Rel-4
34.123-1	155		Rel-4	Modification on Session Management test case 11.1.3.2	F	4.1.0	4.2.0	T1-020062	TEI	R99, Rel-4

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Tdoc T1S-020067

	CHANGE REQUEST											
ж <mark>Т</mark>	<mark>S 3</mark>	<mark>4.123-1</mark>	CR	130	9	# rev	-	Ħ	Current vers	ion:	4.1.0	ж
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \Re symbols.												
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network												
Title:	ж	Correction	<mark>n to An</mark>	nex A								
Source:	ж	Ericsson										
Work item code	э: Ж	TEI							Date: ೫	2002	2-02-12	
Category:	ж	F Use <u>one</u> of a F (corr A (corr B (add C (fun D (edia Detailed exp be found in	the follo rection) respond lition of ctional in corial mo lanatio 3GPP	owing cates ds to a corri feature), modification, odification, ns of the a <u>FR 21.900</u> .	gories: rection on of fea) above c	in an ea ature) ategorie	erlier re	elease	Release: ₩ Use <u>one</u> of 2 9) R96 R97 R98 R99 REL-4 REL-5	REL- the follo (GSM I (Relea (Relea (Relea (Relea (Relea	-4 pwing rele Phase 2) se 1996) se 1997) se 1998) se 1999) se 4) se 5)	eases:

Reason for change: #	Correction to RRC default messages in Annex A
Reusen for enange.	
Summary of change: ೫	 ACTIVE SET UPDATE message: AM Activation time changed to 'now'. AM mode is used and if the message is retransmitted the UE could miss the 'real' activation time and wait for the 'next' occurence of that Connection Frame Number (CFN). Activation time in Active Set Update should be 'now'.
	2. PHYSICAL CHANNEL RECONFIGURATION (A6) Changed value on 'Downlink information for each radio link' to 'Not Present' as this information is unnecessary in this messages. 'Downlink information for each radio link' wont force the UE to select a cell. In the worst case, if the selected serving cell does not match the cell indicated by this IE, the UE will perform a CELL UPDATE.
	 3. RADIO BEARER RELEASE (A6) Added IE for 'UL Transport channel information for all transport channels' and 'DL Transport channel information for all transport channels' for case A1, A2, A3 and A4. The message is missing TFCS reconfiguration information. If TFCS is not reconfigured the stored TFCS will not be interpreted correctly. I.e. the CTFC values will not be interpreted correctly (Message is rejected 25.331 8.6.5.2) Changed value on 'Downlink information for each radio link' to 'Not Present' as this information is unnecessary in this messages. 'Downlink information for each radio link' wont force the UE to select a cell. In the worst case, if the selected serving cell does not match the cell indicated by this IE, the UE will

	perform a CELL UPDATE.
Consequences if not approved:	# Incorrect RRC default messages which may cause godd UE to fail.
Clauses affected:	# Annex A
Other specs affected:	 Conter core specifications Test specifications O&M Specifications
Other comments:	# Affects R99 and REL-4

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Annex A (normative): Default RRC Message Contents

A.1 Default RRC Message Contents (FDD)

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

 NOTE: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type "GSM-MAP"), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256now
New U-RNTI	Not Present
CN information info	Not Present
Downlink counter synchronisation info	Not Present
Maximum allowed UL TX power	33dBm
Radio link addition information	Not Present
Radio link removal information	Not Present
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Refer to test requirement

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
 Message authentication code 	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
 RRC Message sequence number 	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
START List	Checked to see if the 'CN domain identity' and 'START'
	IEs are present for all CN domains supported by the UE
- CN domain identity	Checked to see if it is one of the supported CN domains
- START	Checked to see if it is present
AM_RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM_RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RN11	Not Present
RRC State indicator	CELL_FACH
UIRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE Not Dresent
UDA identity	
URA Identity PR information to release list	Not Present
RD Information to reconfigure list	Not Present
RD information to be offected list	Not Present
No information to be anected list	Not Present
III. Transport channel information common for all	Not Present
transport channels	Not Tresent
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE Mode	FDD
- CPCH set ID	Not Present
- Added or Reconfigured TrCH	Not Present
information for DRAC list	
DL Transport channel information common for all	Not Present
transport channels	
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IF is dependent on IXIT statements
	in TS 34 123-2 If integrity protection is indicated to be
	active this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted
Massage authentication code	So colculates the value of MAC I for this message and
- Message authentication code	writes to this IE
DDC maaaaaa aaguanaa numbar	WITCH STOLEN STERE
- RRC message sequence number	
Measurement Command	l Potun
Measurement Departing Mode	Setup
Measurement Report Transfer Mede	Asknowledged mode PLC
Moscurement Report Transiel Mode	Event Trigger
Mode	Lvent mggei
Additional measurement list	Not Present
	Intra frequency measurement
- Intra-frequency measurement	Intra-frequency measurement
- Intra-frequency measurement	
- New intra-frequency cell	
- Intra-frequency cell-id	1
- Cell individual offset	04B
- Reference time difference to cell	Not Present
- Read SEN number	FAI SE
- CHOICE mode	
- Primary CPICH info	
- Primary Scrambling code	150
- Primary CPICH Tx power	Not Present
- TX Diversity indicator	FALSE
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell Identity reporting indicator	TRUE
- CPICH Ec/N0 reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored cells	
 SFN-SFN observed time difference reporting 	No report
indicator	
 Cell synchronisation information reporting 	FALSE
indicator	
 Cell Identity reporting indicator 	TRUE
 CPICH Ec/N0 reporting indicator 	FALSE
 CPICH RSCP reporting indicator 	TRUE
 Pathloss reporting indicator 	FALSE
 Reporting quantities for detected set cells 	Not Present
 Reporting cell status 	
 CHOICE reported cell 	Report cell within active set and/or monitored cells on
	used frequency
 Maximum number of reported cells 	2
 Measurement validity 	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
 Intra-frequency measured results 	
- Cell measured results	
- Cell Identity	Not present
 SFN-SFN observed time difference 	Checked that this IE is absent
 Cell synchronisation information 	Checked that this IE is absent
- Primary CPICH info	
 Primary scrambling code 	150
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record	
 CHOICE Used paging identity 	CN identity
- Paging cause	Terminating Low Priority Signalling
 CN domain identity 	CS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the
	TEST USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record	
 CHOICE Used paging identity 	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the
	TEST USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE
DBC massage acquance number	SC provides the value of this IF from its internal counter
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging record type identifier	Select the same type as in the IE "Initial UE Identity" in
	RRC CONNECTION REQUEST" message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3,	
	A4. A5. A6	
RRC transaction identifier	, , , , , , , , , , , , , , , , , , , ,	Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active this IF is
		with the values of the sub IFs as stated
		below Else this IF and the sub-IFs are
		omitted
- message authentication code		SS calculates the value of MAC-I for this
moodage admonitoritoritoritori		message and writes to this IF
- RRC message sequence number		SS provides the value of this IF from its
Kite message sequence number		internal counter
Integrity protection mode info		Not Present
Cinbering mode info		Not Present
		(250+CFN-(CFN MOD 8 + 8))MOD 250
		Not Present
DDC Otata indicator	A4 A0 A0	
RRC State Indicator	AT, AZ, AS,	
PPC State indicator	A4 A5 A6	
OTRAN DRX cycle length coefficient	$A_1, A_2, A_3,$	Not Present
CN information info	A4, A5, A0	Not Present
		Not Present
Deventing		Not Present
Downlink counter synchronisation info		Not Present
		Deference to elever C 4 Test frequencies
		Reference to clause 5.1 Test frequencies
		Reference to clause 5.1 Test frequencies
		33dBm
CHOICE channel requirement	A5, A6	Not Present
CHOICE channel requirement	A1, A2, A3,	Uplink DPCH info
	A4	
- Uplink DPCH power control into		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
 Scrambling code type 		Long
 Scrambling code number 		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
 spreading factor 		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10
		Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10
		Parameter Set
CHOICE Mode	A1, A2, A3,	FDD
	A4, A5, A6	
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1, A2, A3,	
	A4	
- Downlink DPCH info common for all RL		
- Liming indicator		Maintain
 CFN-targetSFN frame offset 		Not Present
 Downlink DPCH power control information 		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P _{Pilot-DPDCH}		0
 DL rate matching restriction information 		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set

Information Element	Condition	Value/remark
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- CHOICE SF		Otherwise
 DPCH compressed mode info 		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information for each radio links	A1,	
	A2,A3,A4	
- Primary CPICH info		
 Primary scrambling code 		100
- PDSCH with SHO DCH info		Not Present
 PDSCH code mapping 		Not Present
- Downlink DPCH info for each RL		
- Primary CPICH usage for channel estimation		Primary CPICH may be used
- DPCH frame offset		0 chips
- Power offset P _{Pilot-DPDCH}		0
- Secondary CPICH info		Not Present
- DL channelisation code		_
- Secondary scrambling code		5
- Spreading factor		Reference to 1534.108 clause 6.10
October and the m		Parameter Set
- Code number		U Na shanna
- Scrambling code change		No change
- TPC combination index		U Not Drocont
- SSDT Cell Identity		Not Present
- Closed loop liming adjustment mode		Not Present
- SCCPCH INIOITIALION IOF FACH	۸ <i>Б</i>	Not Present
- Downlink information for each radio link	AD	
- Choice mode		FDD
- Filling OFICH IIIO Primary scrambling code		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code manning		Not Present
- Downlink DPCH info for each Pl		Not Present
- SCCPCH Information for FACH		Not Present
- Downlink information for each radio link	46	Not Present
- Choice mode	AU	
- Primary CPICH info		
- Primary scrambling code		150
		Not Present
PDSCH code mapping		Not Present
Downlink DPCH info for each RL2		Not Present
		Not Present
		HOLFHODOIR

Condi	ition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info CHOICE mode	Not checked FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement

Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A4,	
	A5,	
	A6,A7,A8	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXII
		statements in 15 34.123-2. If integrity
		protection is indicated to be active, this is is
		stated below. Else, this IE and the sub IEs as
		omitted
- message authentication code		SS calculates the value of MAC-I for this
message authentication code		message and writes to this IF
- RRC message sequence number		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If ciphering is
		indicated to be active, this IE present with the
		values of the sub IEs as stated below. Else,
		this IE is omitted.
 Ciphering mode command 		Start/restart
- Ciphering algorithm		Use one of the supported ciphering algorithms
- Ciphering activation time for DPCH		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time		Not Present
Into		
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1,	CELL_DCH
	A4,A7,A8	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A4,	Not Present
	A5,	
ON information info	A6,A7,A8	Net Deserve
CN INFORMATION INFO		Not Present
Signalling PB information to setup		Not Present
RAB information for setup	Δ1 Δ7	Not i lesent
- RAB info	7.1,7.17	
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present

Information Flomant	Condition	Volue/remark
	Condition	value/remark
- CHOICE RLC info type		RLC Info
- CHOICE Uplink RLC mode		IMRLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		IMRLC
- Segmentation indication		FALSE
- RB mapping info		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
 UL Transport channel identity 		1
 Logical channel identity 		Not Present
- CHOICE RLC size list		Configured
 MAC logical channel priority 		1
 Downlink RLC logical channel info 		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
 DL DCH Transport channel identity 		6
 DL DSCH Transport channel identity 		Not Present
- Logical channel identity		Not Present
RAB information for setup	A8	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present
- CHOICE RI C info type		BLC info
- CHOICE Unlink RLC mode		TM RI C
- Transmission RI C discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RI C mode		TM RLC
- Segmentation indication		FALSE
- RB mapping info		I NEOL
- Information for each multiplexing option		
- RLC logical channel manning indicator		Not Present
- Number of unlink PLC logical channels		1
Liplink transport channel type		
- UI Transport channel identity		1
Logical channel identity		Not Procent
- CHOICE RI C size list		Configured
- CHOICE REC SIZE list		
- MAC logical charinel phonty Downlink PLC logical channel info		
- Downlink REC logical channels into		1
Downlink transport channel type		
- DOWININK transport channel type		
- DL DCH Transport channel identity		0 Not Drocont
		Not Present
- Logical channel identity		
- RD Identity		11 Not Drocont
- PDCP INIO		Not Present
- CHOICE RLC Info type		
		TM RLC
- Transmission RLC discard		Not Present
- Segmentation indication		
- CHOICE Downlink RLC mode		IMRLC
- Segmentation indication		FALSE
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
- Uplink transport channel type		DCH
- UL Transport channel identity		2
 Logical channel identity 		Not Present
- CHOICE RLC size list		Configured

Information Element	Condition	Value/remark
- MAC logical channel priority		1
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
 DL DCH Transport channel identity 		7
 DL DSCH Transport channel identity 		Not Present
 Logical channel identity 		Not Present
- RB identity		12
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		IM RLC
- Transmission RLC discard		
- Segmentation Indication		
- Segmentation indication		
- RB mapping info		
- Information for each multiplexing option		
- RI C logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		3
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
 MAC logical channel priority 		1
 Downlink RLC logical channel info 		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
 DL DCH Transport channel identity 		8
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A4, A5, A6	
- RAB INTO		(AM DICH for PS domain)
- RAB Identity		DOUD UTUTB DS domain
- CN domain identity		PS domain Not Procent
- Re-establishment timer		
		4361014
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		AM RLC
- Transmission RLC discard		
- CHOICE SDU discard mode		Max DAT retransmissions
- MAX_DAT		4
- Timer_MRW		100
		4
- Transmission window size		8
- Timer_RST		500
- Max_RST Polling info		4
- Folling Into - Timer poll prohibit		200
- Timer poll		200
- Poll SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU poll		TRUE
- Poll_Windows		99
- CHOICE Downlink RLC mode		AM RLC
- In-sequence delivery		TRUE
- Receiving window size		8
- Downlink RLC status info		
- Timer_status_prohibit		200
- Timer_EPC		200
- Missing PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		2 RBMuxOptions
 RLC logical channel mapping indicator 		Not Present

ſ	Information Flomont	Condition	Value/romark
	Number of unlink DLC legical shannels	Condition	value/remark
	- Number of uplink RLC logical channels		
	- Opink transport channel type		
	- OL Transport channel identity		I Not Drocont
			Not Present
	- CHOICE RLC SIZE IISt		Configured
	- MAC logical channel priority		1
	- Downlink RLC logical channel info		
	- Number of downlink RLC logical channels		
	- Downlink transport channel type		DCH
	- DL DCH Transport channel identity		6
	- DL DSCH Transport channel identity		Not Present
	- Logical channel identity		Not Present
	- RLC logical channel mapping indicator		Not Present
	- Number of uplink RLC logical channels		
	- Uplink transport channel type		RACH
	- UL Transport channel identity		
	- Logical channel identity		
	- CHOICE RLC size list		Configured Excplicit list
	- RLC size index		Reference to 1S34.108 clause 6 Parameter
I			Set
	- MAC logical channel priority		6
	- Downlink RLC logical channel info		
	- Number of downlink RLC logical channels		1
	- Downlink transport channel type		FACH
	- DL DCH Transport channel identity		Not Present
	- DL DSCH Transport channel identity		Not Present
I	- Logical channel identity		Not Present7
	RB information to be affected	A1, A4,	Not Present
		A5,	
		A6,A7,A8	
	Downlink counter synchronisation info	A1, A4,	Not Present
		A5,	
		A6,A7,A8	
	UL Transport channel information for all transport	A1,A4,A7,	
	channels	A8	
	- PRACH IFCS		Not Present
	- CHOICE mode		FDD
	- IFC subset		Not Present
	- CHOICE TECI signalling		Normal
	- IFCI Field 1 information		
	- CHOICE TECS representation		Complete reconfiguration
	- IFCS complete reconfigure information		
	- CHOICE CIFC Size		Number of bits used must be enough to cover
			all combinations of CTFC from TS34.108
			clause 6.10 Parameter Set.
	- CIFC Information		This IE is repeated for TFC numbers and
			Pot
			Determined to TS24 400 clause 0.40
	- 01F0		Reference to 1534.108 clause 6.10
	Dowor offect information		Faiamelei Jel
	- Power onset information		Computed Cain Easters/The last TEC is act to
			Signalled Cain Factors (The last TFC is set to
	Gain factor Pa		TPD(Not Dropont if the OHOLOE Opin Eastern
	- Gain factor pc		is set to Signalled Cain Easters)
	Gain factor Rd		TRD/Net Present if the CHOICE Cain Factors
	- Gain lactor pu		is set to Signalled Gain Eactors)
	- Reference TEC ID		
	- CHOICE mode		
	- Drivice mode		Not Present
	III Transport channel information for all transport	Δ5 Δ6	Not Present
		AJ, AU	
	- PRACH TECS		
	- CHOICE mode		
	- TFC subset		
	- UL DCH TFCS		

Information Element	Condition	Value/remark
Deleted UL TrCH information	A1, A4,	Not Present
	A5,	
Added or Reconfigured III, TrCH information	A6,A7,A8	
- Uplink transport channel type	AI	DCH
- UL Transport channel identity		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information - RLC Size		Reference to TS34 108 clause 6 10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to 1534.108 clause 6.10 Parameter
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
Turne of chornel coding		Set
- Type of channel coding		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
3 3 3 3		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
- CRC SIZE		Set
Added or Reconfigured UL TrCH information	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type	,	DCH
- UL Transport channel identity		5
- TFS		Dedicated transport channels
- Dynamic Transport format information		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Reference to TS34 108 clause 6 10 Parameter
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
Data mataking attaikuta		Set
- Rate matching attribute		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
Number of TRe and TTL List		Set (This IF is repeated for TEL number)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format Information		Reference to TS34 108 clause 6 10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
- Coding Rate		Set Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Set Reference to TS34.108 clause 6.10 Parameter
- CRC size		Set Reference to TS34.108 clause 6.10 Parameter
Added or Reconfigured UL TrCH information	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH)
 Uplink transport channel type UL Transport channel identity TFS 		DCH 5
- CHOICE Transport channel type - Dynamic Transport format information		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
 Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 		(This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6.10 Parameter
- CHOICE Logical Channel list		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS 		DCH 1
 CHOICE Transport channel type Dynamic Transport format information 		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
 Number of TBs and TTI List Transmission Time Interval 		(This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list Semi-static Transport Format information 		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to IS34.108 clause 6.10 Parameter Set
- Coding Rate		Set
		Set
- CRC SIZE		Set
- UL Transport channel identity - TFS		2
 CHOICE Transport channel type Dynamic Transport format information 		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
 Number of TBs and TTI List Transmission Time Interval 		(This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All

Information Element	Condition	Value/remark
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Set Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
- Uplink transport channel type - UL Transport channel identity - TFS		DCH 3
 CHOICE Transport channel type Dynamic Transport format information 		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List - Transmission Time Interval		(This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list Semi-static Transport Format information 		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
CHOICE mode		FDD
- CPCH set ID		Not Present
 Added or Reconfigured TrCH information for 		Not Present
DRAC list		
Added or Reconfigured UL TrCH information	A5, A6	Not Present
CHOICE mode	A1, A4,	FDD
	A5, A6 A7 A8	
- CPCH set ID	/ 10,/ 11 ,/ 10	Not Present
- Added or Reconfigured TrCH		Not Present
information for DRAC list		
DL Transport channel information common for all	A1,A7,A8	
		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		Sameast II
DL Transport channel information common for all	A4	
transport channel		
		Not Present
- CHOICE Mode		FDD Evelicit
		Explicit
- DL DUH TEUS		Normal
- TECL Field 1 Information		noma
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHOICE CTFC Size		Number of bits used must be enough to cover
		all combinations of CTFC from clause
		TS34.108 clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and
		reference to TS34.108 clause 6.10
- CTFC		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
- Power offset information		Not Present
DL Transport channel information common for all	A5, A6	Not Present
transport channel		
- SCCPCH TFCS		
- CHOICE mode		
- CHOICE DL parameters		Not Droppet
	AT, A4,	Not Present
	A5, A6 A7 A8	
Added or Reconfigured DL TrCH information	A1	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL IrCH identity		1
		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A4.A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
 Uplink transport channel type 		DCH
- UL TrCH identity		5
- DCH quality target		Net Dresert
- BLER Quality value		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
 CHOICE Transport channel type 		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
Number of TPo and TTL List		Set (This IE is reported for TEL number)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
·		Set
 Semi-static Transport Format information 		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
Turne of the second sections		Set
- Type of channel coding		Reference to 1534.108 clause 6.10 Parameter
- Coding Rate		Reference to TS3/ 108 clause 6 10 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3 Net Present
- Transparent mode signaling into	<u>Λ</u> 8	A TrCHs(DCH for DCCH and 3DCHs for
Added of Reconfigured DE TICIT Information	70	DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		Not Present
- DLER Quality value		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		6

	1	1
Information Element	Condition	Value/remark
 CHOICE DL parameters 		Explicit
- TFS		
 CHOICE Transport channel type 		Dedicated transport channel
 Dynamic transport format information 		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
 Number of TBs and TTI List 		(This IE is repeated for TFI number.)
 Dynamic transport format information 		
- Transmission Time Interval		Not Present
 Number of Transport blocks 		Reference to TS34.108 clause 6.10 Parameter
		Set
 Semi-static Transport Format information 		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
-		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
-		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		7
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
•		Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
J. J		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
C C		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		8
- CHOICE DL parameters		Explicit
- TFS		
 CHOICE Transport channel type 		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		. , ,
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
·		Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter

	Condition	Value/remark
_ / / /		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		Set
- Rate matching attribute		Reference to 1S34.108 clause 6.10 Parameter
000		Set
- CRC size		Reference to 1534.108 clause 6.10 Parameter
DOLL musliky to rest		Set
- DCH quality target		Not Drocont
- DLER Quality value		Not Present
- Hansparent mode signaling into		Not Present
		Not Present
Frequency info	A1, A4,	
LIARECN unlink (Nu)	A5, A6	Peteroneo to clauso 5 1 Test frequencies
LIABECN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed LIL TX power	Δ1 Δ1	33dBm
Maximum allowed OE TX power	$\Delta 5, \Delta 6$	350Bm
		Linlink DPCH info
- Unlink DPCH power control info	A1, A4	
- DPCCH nower offset		-6dB
- DC Dreamble		1 frame
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
 Scrambling code type 		Long
 Scrambling code number 		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter
		Set
- Puncturing Limit		Reference to TS34 108 clause 6 10 Parameter
		Set
CHOICE channel requirement	A5,A6	Not Present
CHOICE Mode	A1, A4,	FDD
	A5	
- Downlink PDSCH information	/(0,/(/,/(0	Not Present
Downlink information common for all radio links	A1	
	A4 A7 A8	
Downlink DPCH info common for all Pl	, , , , , , , , , , , , , , , , , , , ,	
- Downlink DFCH into continuentor all RL		Maintain
- Downlink DFCH into continion for all KL - Timing indicator		Maintain Not Present
- Timing indicator - CFN-targetSFN frame offset		Maintain Not Present
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information 		Maintain Not Present
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode 		Maintain Not Present 0 (single)
- Downlink DPCH into control for all RL - Timing indicator - CFN-targetSFN frame offset - Downlink DPCH power control information - DPC mode - CHOICE mode		Maintain Not Present 0 (single) FDD
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} 		Maintain Not Present 0 (single) FDD 0
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information 		Maintain Not Present 0 (single) FDD 0 Not Present
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set
 Downlink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter
 Downlink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set
 Downlink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise
 Downlink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD
 Downlink DPCH into control for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present
 Downlink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info TX Diversity mode 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present None
 Downink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info TX Diversity mode SSDT information 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present None Not Present
 Downink DPCH into contribution for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info TX Diversity mode SSDT information 		Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present None Not Present Not Present
 Downlink DPCH into continion for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value 	Δ5 Δ6	Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present None Not Present Not Present Not Present
 Downlink DPCH into continion for all RL Timing indicator CFN-targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode Power offset P_{Pilot-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE mode DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value 	A5,A6	Maintain Not Present 0 (single) FDD 0 Not Present Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Otherwise FDD Not Present None Not Present Not Present Not Present

Information Element	Condition	Value/remark
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
- PDSCH with SHO DCH info		Not Present
 PDSCH code mapping 		Not Present
 Downlink DPCH info for each RL 		
 Primary CPICH usage for channel estimation 		Primary CPICH may be used
- DPCH frame offset		0 chips
 Secondary CPICH info 		Not Present
- DL channelisation code		
 Secondary scrambling code 		1
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Code number		0
 Scrambling code change 		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
 Closed loop timing adjustment mode 		Not Present
 SCCPCH information for FACH 		Not Present
Downlink information for each radio link list	A5	
 Downlink information for each radio link 		
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link list	A6	
- Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH into for each RL		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech from CELL_DCH to CELL_DCH in CS"
A2 is defined in TS34.108 clause 9.	This IE need for "Speech from CELL_DCH to CELL_DCH in CS"
A3 is defined in TS34.108 clause 9.	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"
A7	This IE need for "Non speech from CELL_FACH to CELL_DCH in CS"
A8	This IE need for "Speech from CELL_FACH to CELL_DCH in CS"

Contents of RADIO BEARER SETUP FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER SETUP message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1,A2,A3,	
	A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs are
		omitted.
- message authentication code		SS calculates the value of MAC-I for this
		message and writes to this IE.
- RRC message sequence number		SS provides the value of this IE, from its
late suit constantion and do info		Internal counter.
Ciphering mode info		Not Present
Activation time		
		(250+CFN-(CFN MOD 8 + 8))MOD 250
New C-RNTI		Not Present
RRC State indicator	Δ1 Δ2 Δ3	CELL DCH
	A1, A2, A3, A4	OELE_DON
RRC State indicator	A5, A6	CELL FACH
UTRAN DRX cycle length coefficient	A1,A2,A3,	Not Present
	A4,A5,A6	
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1	TS25.331 specifies that "Although this IE is not
		always required, need is MP to align with
		ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC Info		Not Present
- RB mapping into		Not Present
- RB stop/continue	-	(AM DOOL for DDO)
- RB information to reconfigure		
- ND IUCITIILY		∠ Not Present
- PDCP INIO		Not Present
- RI C info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT High priority)

Information Element	Condition	Value/remark
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		(AM DOOLL for MAC, DT Low priority)
- RD Information to reconfigure		
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10 Not Procent
- PDCP INIO PDCP SN info		Not Present
- FDCF SN IIIO - RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A2	TS25.331 specifies that "Although this IE is not
Ũ		always required, need is MP to align with
		ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		
- PDCP into		Not Present
- PDCP SN INTO		Not Present
- RB manning info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		(AM DCCH for NAS, DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconligure		(AN DCCH for NAS_DT Low priority)
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10 Not Drocont
- PDCP INIO PDCP SN info		Not Present
- RI C info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		11
- PDCP info		Not Present
- PDCP SN into		Not Present
- KLU INTO PR manning info		NOT Present
- RB ston/continue		Not Present
- RB information to reconfigure		(TM DTCH)
		(This IE is needed for 12.2 kbps and 10.2
		• •

Internation Lement Condition Value/remark - RB information to reconfigure list A3.44,45, 46 Maps) It Present - RB information to reconfigure list A3.44,45, 46 A4.45, 46 Maps Present - RB information to reconfigure list A3.44,45, 46 A6 Stoppontinue - RB information to reconfigure - RB information to reconfigure A3.44,45, 46 Maps Present Maps Present - RB information to reconfigure - RB information to reconfigure A3.44,45, 46 Not Present Not Present - PDCP SN Info - PDCP info Not Present Not Present Not Present - RB information to reconfigure - RB information to reconfigure Not Present Not Present - RB information to reconfigure - RB information to reconfigure Not Present Not Present - RB information to reconfigure - RB information to reconfigure Not Present Not Present - RB information to reconfigure - RB information to reconfigure Not Present Not Present - RB information to reconfigure - RB information to reconfigure Not Present Not Present - RB in	Information Flowant	Condition	Value/remerk
- PB identify Fig. 2007 - PDCP SN Info 12 - RC Info - Not Present - RE information to reconfigure - A 3, A4 A5, -	Information Element	Condition	Value/remark
- B.Dor Burloy - Report - PDCP SN Info - Report - RB information to reconfigure - R3. - RB information to reconfigure	DD identity		kbps)
- EVCP Into Not Present - EVCP IND Not Present - RB stop/continue Not Present - RB stop/continue Not Present - RB information to reconfigure A3.A4.A5 - RB information to reconfigure A6 - RB information to reconfigure Not Present - RB information to reconfigure A6 - RB information to reconfigure Not Present - RDCP SN info Not Present - RDCP SN info Not Present - RDCP SN info Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RB information to reconfigure - RB information to reconfigure - RB information to reconfigure - RB information to reconfigure - RB information to reconfigure - RB information to reconfigure - RB information to reconfigure - RB information to reconfi	- RB Identity		12 Not Present
- LCL - St min Not Present - RB information to reconfigure A3.44.45. - RB information to reconfigure A6 - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RDCP SN Info Not Present - RDCP SN info Not Present - RDC For Info Not Present - PDCP SN info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RB information to reconfigure RB information to reconfigure - RB information to reconfigure RB information to reconfigure <	- FDCF IIIU DCD SN info		Not Present
- Ret intogramming All Additional and the second seco	PLC info		Not Present
Ability and part of the sent Not resent RB information to reconfigure list A3, A4, A5, A6 RB information to reconfigure list A3, A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA and A4, A5, A6 RB information to reconfigure RA AA, A5, A6 RB information to reconfigure	- RLC IIIIO PR manning info		Not Present
Abs. Jobs Supporting Note Present RB information to reconfigure A3,A4,A5, A6 A6 A6 A6 A6 A6 A6 A6 A6 A6 A6 A6 A6 A7 A6 A6 A7 A6 A7 B7 B6 B6 B7 B6 B6 B7 B7 B7 B7 <td>- RB mapping into PR stop/continuo</td> <td></td> <td>Not Present</td>	- RB mapping into PR stop/continuo		Not Present
RB information to reconfigure RB information to reconfigure - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RD information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure HM DCH for RRC) - RB information to reconfigure Not Present - RB informati	PP information to reconfigure list	A2 A4 A5	TS25 221 aposition that "Although this IE is not
- RB information to reconfigure (UM DCCH for RRC) - PDCP Info 1 - PDCP Ninfo Not Present - RB information to reconfigure A1, A2, A3, A5, A6 - DCD	To mornation to recompute list	A6	always required, need is MP to align with ASN.1".
- PDCP info Not Present - PDCP SN info Not Present - RB indpring info Not Present - RB indpresion	 RB information to reconfigure RB identity 		(UM DCCH for RRC)
- PDCP SN info Not Present - RB mapping info Not Present - RB information to reconfigure (AM DCCH for RRC) - RB information to reconfigure 2 - PDCP SN info Not Present - RB mapping info Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - PDCP SN info Not Present - RD information to reconfigure Not Present - RB	- PDCP info		Not Present
- RLC info Not Present - RB stop/continue Not Present - RB identity 2 - PDCP INTO 2 - RD information to reconfigure 2 - RD information to reconfigure 3 - RB identity Not Present - RD information to reconfigure Not Present - RB indepting info Not Present - RB indepting info Not Present - RB indepting info Not Present - RD CP Info Not Present - PDCP SN info Not Present - RB information to reconfigure (AM DCCH for NAS_DT High priority) - RB information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Pres	- PDCP SN info		Not Present
- RB mapping info Not Present - RB information to reconfigure (AM DCCH for RRC) - RB information to reconfigure Not Present - RDCP info Not Present - RDCP SN info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RDCP info Not Present - PDCP SN info Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RDCP SN info Not Present - RDCP SN info Not Present - RB information to reconfigure Not Present - RB information tore affected A1, A2, A3, A6	- RLC info		Not Present
- RB stop/continue Not Present - RB identity 2 - PDCP SN info Not Present - RB identity Not Present - RDCP SN info Not Present - RB identity Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RB information to reconfigure Not Present - RB information Not Present - RB information Not Present - RB information Not Present - RB informatio	- RB mapping info		Not Present
- RB information to reconfigure (AM DCCH for RRC) - RD identity 2 - PDCP info Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to be affected A1, A2, A3 - RB information to be affected A1, A2, A3 - RB information to be affected A1, A2, A3 - RB information to be affected A1, A2, A3 - CPCH set ID </td <td>- RB stop/continue</td> <td></td> <td>Not Present</td>	- RB stop/continue		Not Present
- RB identity 2 - PDCP SN info Not Present - RLC info Not Present - RB information to reconfigure Not Present - PDCP SN info Not Present - RDC SN info Not Present - RDC SN info Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RDC info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RDC info Not Present - RDC info Not Present - RB information to be affected A1, A2, A3, A5, A6 UL Transport channel information for all transport AA, A5, A6 Not Pres	- RB information to reconfigure		(AM DCCH for RRC)
- PDCP info Not Present - RD info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - PDCP info Not Present - PDCP SN info Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure A1, A2, A5, A6 UL Transport channel information for all transport A1, A2, A5, A6 Oeleted UL TrCH informa	- RB identity		2
- PDCP SN info Not Present - RB rapping info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - PDCP SN info Not Present - RDC SN info Not Present - RDC SN info Not Present - RD information to reconfigure Not Present - RB information to be affected A1, A2, A3, A0 Present - RB information for all transport A1, A2, A3, A6 - RB information for all transport A1, A2, A3, A6 - CPCP Hord A1, A2, A3, A6 - CPCH set ID A1, A2, A3, A6 - Added or Reconfigured UL TrCH information for all	- PDCP info		Not Present
- RLC info Not Present - RB information to reconfigure Not Present - RB information to reconfigure (AM DCCH for NAS_DT High priority) - RB information to reconfigure Not Present - RD Finfo Not Present - PDCP info Not Present - PDCP SN info Not Present - RB information to reconfigure Not Present - RD info Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to be affected	- PDCP SN info		Not Present
- RB mapping info Not Present - RB information to reconfigure Not Present - RB identity 3 - PDCP SN info Not Present - RD info Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RD info Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB identity 20 - PDCP SN info Not Present - RB information to be affected A1, A2, A3, A4, A5, A6 UL Transport channel information for all transport channels A1, A2, A3, A4, A5, A6 Deleted UL TrCH information A1, A2, A3, A4, A5, A6 CHOICE mode A1, A2, A3, A4, A5, A6 - CPCH set ID A4, A5, A6 CHOICE mode A1, A2	- RLC info		Not Present
- RB stop/continue Not Present - RB identity 3 - PDCP into Not Present - PDCP SN info Not Present - RD represent Not Present - RB identity Not Present - RD represent Not Present - RB identity Not Present - RD represent Not Present	- RB mapping info		Not Present
- RB information to reconfigure (AM DCCH for NAS_DT High priority) - RDCP SN info Not Present - RDCP info Not Present - RB information to reconfigure Not Present - RDCP SN info Not Present - RDCP SN info Not Present - RB information to reconfigure Not Present - RB information to be affected A1, A2, A3, A5, A6 RB information to be affected A1, A2, A3, A5, A6 UL Transport channel information for all transport channel information for all transport channel information for all transport A1, A2, A3, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 Not Present - Added or Reconfigured TLCH information for DRAC list <td< td=""><td>- RB stop/continue</td><td></td><td>Not Present</td></td<>	- RB stop/continue		Not Present
- PDCP info Not Present - PDCP SN info Not Present - RB mapping info Not Present - RB information to reconfigure (AM DCCH for NAS_DT Low priority) - RB information to reconfigure 4 - PDCP SN info Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RD information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure Not Present - RB information to reconfigure 20 - RD information to reconfigure Not Present - RD information to be affected A1, A2, A3, A5, A6 - RB information to be affected A1, A2, A3, A45, A6 - RB information for all transport channel information for all transport channels A1, A2, A3, A45, A6 Deleted UL TrCH information for all transport channel information common for all A1, A2, A3, A45, A6 Not Present - CPCH set ID A1, A2, A3, A45, A6 Not Present - CPCH set ID A4, A5, A6 Not Present - Added or Reconfigured TrCH information for DRAC list A1, A2, A3, A4, A5, A6 Deleted DL TrCH inf	 RB information to reconfigure RB identity 		(AM DCCH for NAS_DT High priority) 3
PDCP SN infoNot Present- RLC infoNot Present- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RDCP SN infoNot Present- RDCP SN infoNot Present- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RB information to reconfigure(AM DCCH for NAS_DT Low priority)- RB information to reconfigure(AM DTCH)- RB identity20- RB identity20- RDCP SN infoNot Present- RB stop/continueNot Present- RDCP SN infoNot Present- RB stop/continueA1, A2,- RB information to be affectedA1, A2, A3,A4, A5, A6A1, A2, A3,Deleted UL TrCH information for all transportA1, A2, A3,- CPCH set IDA4, A5, A6- CPCH set IDA4, A5, A6- Added or Reconfigured TrCH information for allA1, A2, A3,- CPCH set IDAdded or Reconfigured TrCH information for allA1, A2, A3,- CPCH set IDA1, A2, A3,Not Present- Added or Reconfigured TrCH information for DRAC listA1, A2, A3,Not PresentDeleted DL TrCH informationA1, A2, A3,Not Present- Added or Reconfigured DL TrCH information for DRAC listA1, A2, A3,Not Present- Added or Reconfigured DL TrCH information<	- PDCP info		Not Present
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- RB information to reconfigure (AM DCCH for NAS_DT Low priority) - RB identity A - PDCP SN info Not Present - RB mapping info Not Present - RB information to reconfigure (AM DTCH) - RD information to reconfigure (AM DTCH) - RD information to be affected Not Present - RB information to be affected A1, A2, A3, A4, A5, A6 RB information to be affected A1, A2, A3, A4, A5, A6 LUL Transport channel information for all transport channels A1, A2, A3, A4, A5, A6 Deleted UL TrCH information A1, A2, A3, A4, A5, A6 CHOICE mode A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH set ID A1, A2, A3, A4, A5, A6 - CPCH	- RB stop/continue		Not Present
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DL Transport channel information common for all transport channel A1, A2, A3, A4, A5, A6 Not Present Deleted DL TrCH information A1, A2, A3, A4, A5, A6 Not Present Added or Reconfigured DL TrCH information A1, A2, A3, A4, A5, A6 Not Present	DRAC list		
transport channelA4,A5, A6Deleted DL TrCH informationA1, A2, A3, A4, A5,A6Not PresentAdded or Reconfigured DL TrCH informationA1, A2, A3, A1, A2, A3, A1, A2, A3,Not Present	DL Transport channel information common for all	A1, A2, A3,	Not Present
Deleted DL TrCH information A1, A2, A3, A4, A5, A6 Not Present Added or Reconfigured DL TrCH information A1, A2, A3, A4, A5, A6 Not Present	transport channel	A4,A5, A6	
Added or Reconfigured DL TrCH information A1, A2, A3, Added or Reconfigured DL TrCH information	Deleted DL TrCH information	A1, A2, A3,	Not Present
Added or Reconfigured DL TrCH information A1, A2, A3, Not Present		A4, A5,A6	· · · · •
	Added or Reconfigured DL TrCH information	A1, A2, A3,	Not Present

Information Flowant	Condition	Volvo/romorik
Information Element	Condition	value/remark
Frequency info	A1,A2,A3,	
	A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed LIL_TX power	A1 A2 A3	33dBm
	$\Lambda \Lambda \Lambda 5 \Lambda 6$	660Dm
CHOICE shannel requirement		Liplink DDCH info
	AT, AZ, AS,	
	A4	
-Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SBB delay		7 frames
- Power Control Algorithm		Algorithm1
TPC stop size		1dB
- TFC SIEP SIZE		lang
- Scrambling code type		
- Scrambling code number		0 (0 to 1677/215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- TECI existence		Reference to TS34.108 clause 6.10 Parameter
		Set
Number of EPI bit		Beference to TS24 109 clause 6 10 Decemeter
		Cet
		Set
- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter
		Set
CHOICE channel requirement	A5, A6	Not Present
CHOICE Mode	A1.A2.A3.	FDD
	A4 A5 A6	
- Downlink PDSCH information	/ (1,/ (0,/ (0	Not Present
Downlink information common for all radia links		Not Present
Downlink Information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1, A2, A3,	
	A4	
 Downlink DPCH info common for all RL 		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- Power onset Ppilot-DPDCH		
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter
		Set
- TECI existence		Reference to TS34 108 clause 6 10 Parameter
		Sot
		Otherwise
DDCH compressed mode info		Not Dropont
- DPCH compressed mode info		Not Present
- IX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information per radio link list	A1, A2, A3,	
	A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		·
Drimary corombling code		100
		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		
 Primary CPICH usage for channel estimation 		Primary CPICH may be used
- DPCH frame offset		0 chips
- Secondary CPICH info		Not Present
- Secondary scrambling code		
- channelisation code		
- DL channelisation code		

.

Information Element	Condition	Value/remark
 Secondary scrambling code 		2
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Code number		0
 Scrambling code change 		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
 Closed loop timing adjustment mode 		Not Present
 SCCPCH information for FACH 		Not Present
 Downlink information for each radio link 	A5	
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
 PDSCH with SHO DCH info 		Not Present
 PDSCH code mapping 		Not Present
 Downlink DPCH info for each RL 		Not present
- SCCPCH Information for FACH		Not Present
 Downlink information for each radio link 	A6	
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		150
 PDSCH with SHO DCH info 		Not Present
- PDSCH code mapping		Not Present
 Downlink DPCH info for each RL 		Not Present
- Secondary CCPCH info		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded List	Not checked

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info CHOICE mode	Not checked FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM

Information Element		Value/remark
Message Type	A1,A2,A3,A4,A5	
RRC transaction identifier Integrity check info	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Arbitrarily selects an integer between 0 and 3 The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs
- message authentication code		SS calculates the value of MAC-I for this
- RRC message sequence number		message and writes to this IE. SS provides the value of this IE, from its
Integrity protection mode info Ciphering mode info Activation time New U-RNTI		Not Present Not Present (256+CFN-(CFN MOD 8 + 8))MOD 256 Not Present
		Not Present
RRC State indicator	A1,A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3,A4,A5 ,A6	Not Present
CN information info Signalling Connection release indication		Not Present Not Present Not Present
BAB information to reconfigure list		Not Present
RAB Information to reconfigure list		NOLFIESEII
- RB identity	A1,A2	10
RB information to release	A2	
- RB identity		11
RB information to release - RB identity	A2	12
RB information to release - RB identity	A3, A4, A5, A6	20
RB information to be affected	A1,A2, A3,A4,A5, A6	Not Present
Downlink counter synchronisation info	A1,A2,A3,A4,A5 ,A6	Not Present
UL Transport channel information for all transport channels	<u>A1, A2, A3, A4</u>	TFCS reconfigured to fit the new transport channel configuration.
UL Transport channel information for all transport channels	A1,A2, A3, A4, A5, A6	Not Present
Deleted UL TrCH Information	A1,A2, A3, A4	
- Uplink transport channel type		DCH
- Transport channel identity		1
Deleted UL TrCH Information	A2	
- Unlink transport channel type	, <u>.</u>	DCH
- Transport channel identity		2
	Δ2	<u> </u>
Liplink transport channel type	~~ <u>~</u>	
Transport channel identity		2
	<u> </u>	Vot Procont
Added or Dependiqueed LIL TrOL information		Not Drogent
	A1,A2, A3,A4 A5, A6	
DLI ransport channel information for all transport channels	<u>A1, A2, A3, A4,</u>	<u>IFCS reconfigured to fit the new transport</u> channel configuration.
DL Transport channel information for all transport channels	<u>A5, A6</u>	Not Present
Deleted DL TrCH Information	A1,A2, A3,A4	
 Downlink transport channel type Transport channel identity 		DCH 6
Deleted DL TrCH Information	A2	-
- Downlink transport channel type		DCH
- Transport channel identity		7

Information Element		Value/remark
Deleted DL TrCH Information	۸2	Valuonomark
Deleted DE HOIT monitation	72	DCH
- Downlink transport channel type		
- Hansport channel identity		0 Not Dragant
Adda d an Da a an firmer d DL TrOU lin formation	A3,A0	Not Present
Added or Reconfigured DL TrCH Information	A1,A2, A3,	Not Present
	A4,A5, A6	
Frequency into	A1,A2,A3,A4,A5	
	,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE channel requirement	A5, A6	Not Present
CHOICE channel requirement	A1,A2,A3,A4	Uplink DPCH info
 Uplink DPCH power control info 		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
 Scrambling code type 		Long
 Scrambling code number 		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10
		Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10
		Parameter Set
CHOICE Mode	A1,A2,A3,A4,A5	FDD
	,A6	
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1,A2, A3, A4	
 Downlink DPCH info common for all RL 		
- Timing indicator		Maintain
 CFN-targetSFN frame offset 		Not Present
 Downlink DPCH power control information 		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P _{Pilot-DPDCH}		0
 DL rate matching restriction information 		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
 Fixed or Flexible Position 		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- CHOICE SF		Otherwise
 DPCH compressed mode info 		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1,A2,A3,A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		
 Primary CPICH usage for channel estimation 		Primary CPICH may be used
- DPCH frame offset		0 chips
- Secondary CPICH info		Not Present
 Secondary scrambling code 		
- channelisation code	1	

Information Element		Value/remark
- DL channelisation code		
 Secondary scrambling code 		3
 Spreading factor 		Reference to TS34.108 clause 6.10
		Parameter Set
- Code number		0
 Scrambling code change 		No change
 TPC combination index 		0
- SSDT Cell Identity		Not Present
 Closed loop timing adjustment mode 		Not Present
 SCCPCH information for FACH 		Not Present
 Downlink information for each radio link 	A5	
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
 PDSCH with SHO DCH info 		Not Present
 PDSCH code mapping 		Not Present
 Downlink DPCH info for each RL 		Not present
 SCCPCH information for FACH 		Not Present
 Downlink information for each radio link 	A6	Not Present
Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		150
		Not Present
		Not Present
Downlink DPCH info for each RL		Not present
SCCPCH information for FACH		Not Present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RELEASE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RELEASE message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Initial UE identity	Select the same type as in the IE "Initial UE Identity" in
	RRC CONNECTION REQUEST" message.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Select the same identity as in the IE "Initial UE Identity" in received RRC CONNECTION REQUEST" message
RRC transaction identifier	0
Activation time	Not Present (Now)
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
RRC state indicator	CELL_FACH
UTRAN DRX cycle length coefficient	9
Capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
 CHOICE RLC info type 	RLC info
 CHOICE Uplink RLC mode 	UM RLC
- Transmission RLC discard	
- SDU discard mode	Timer based no explicit
- Timer discard	50
 CHOICE Downlink RLC mode 	UM RLC
- RB mapping info	
 Information for each multiplexing option 	2 RBMuxOptions
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
 Uplink transport channel type 	DCH
 UL Transport channel identity 	5
 Logical channel identity 	1
- CHOICE RLC size list	Configured
Information Element	Value/remark
---	---
 MAC logical channel priority 	1
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DE DON Hansport channel identity	IU Net Dresent
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	1
- CHOICE RI C size list	Configured Explicit List
	Poterance to TS24 109 clause 6 Decemptor Set
<u>- KLC Size Index</u>	<u>Reference to 1334.100 clause o Parameter Set</u>
- MAC logical channel priority	2
- Downlink RLC logical channel info	
 Number of downlink RLC logical channels 	1
 Downlink transport channel type 	FACH
 DL DCH Transport channel identity 	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RBC)
PR identity	
	RLUINIO
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
 SDU discard mode 	Max DAT retransmissions
- MAX_DAT	4
- Timer MRW	100
- MaxMRW	4
- Transmission window size	8
Timor DST	5
- Tillel_KST	500
	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUF
- Poll Windows	00
CHOICE Downlink PLC mode	
- in-sequence delivery	IRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PDU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOntions
- RI C logical channel manning indicator	Not Present
Number of uplink PLC logical channels	1
- Number of uplink RLC logical channels	
- Oplink transport channel type	
- UL Transport channel identity	5
- Logical channel identity	2
- CHOICE RLC size list	Configured
 MAC logical channel priority 	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
DL DOLT Transport channel identify	Not Procent
- Logical channel identity	2
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	2

Information Element	Value/remark
- CHOICE RLC size list	ConfiguredExplicit List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
 MAC logical channel priority 	3
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH Not Dresent
- DL DCH Transport channel identity	Not Present
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRVV	100
- MaximiRivi - Transmission window size	4 8
- Timer RST	500
- Max RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Windows	99 AM DLC
- CHOICE DOWNINK RLC Mode	
- Receiving window size	8
- Downlink RI C status info	5
- Timer status prohibit	200
- Timer_EPC	200
- Missing PDU indicator	TRUE
- RB mapping info	
 Information for each multiplexing option 	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	
- Uli Transport channel identity	5
- Logical channel identity	3
- CHOICE RLC size list	Configured
- MAC logical channel priority	3
- Downlink RLC logical channel info	
 Number of downlink RLC logical channels 	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Elogical channel menning indicator	3 Not Present
- Number of uplink RI C logical channels	1
- Uplink transport channel type	RACH
- UL DCH Transport channel identity	Not Present
- Logical channel identity	3
- CHOICE RLC size list	ConfiguredExplicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	4
- Downlink RLC logical channel into	1
- INUMBER OF GOWNIINK RLC TOGICAL Channels	
- Downlink transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	RLC info

Information Flowart	Voluerrowerk
	value/remark
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX DAT	4
- Timer MRW	100
- MaxMRW/	1
	0
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer poll	200
- Poll SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU noll	TPLIE
Poll Windowo	
	99
- CHOICE Downlink RLC mode	AMRLC
- In-sequence delivery	TRUE
 Receiving window size 	8
 Downlink RLC status info 	
- Timer status prohibit	200
- Timer EPC	200
Missing PDI Lindicator	
	TRUE
- RB mapping into	
 Information for each multiplexing option 	2 RBMuxOptions
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	
	Configured
- CHOICE REC SIZE IISt	Configured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
 Number of downlink RLC logical channels 	1
 Downlink transport channel type 	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	1
PLC logical channel mapping indicator	Not Procent
Number of unlink DLC legical channels	
- Number of uplink RLC logical channels	
 Uplink transport channel type 	RACH
 UL Transport channel identity 	Not Present
 Logical channel identity 	4
- CHOICE RLC size list	Configured Explicit List
- RLC size index	Reference to TS34,108 clause 6 Parameter Set
- MAC logical channel priority	5
- Downlink PLC logical channel info	v
Number of downlink DLC legical channels	
- Number of downlink RLC logical channels	
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
 DL DSCH Transport channel identity 	Not Present
 Logical channel identity 	4
UL Transport channel information for all transport	Not Present
channels	
Added or Reconfigured TrCH information list	TS 25 331 specifies that "Although this IE is not required
Added of Neconinguled Tront Information list	when the IE "BBC state indicator" is not to "CELL EACH"
	When the IE RRC state indicator is set to CELL_FACH,
	need is MP to align with ASN.1"
 Added or Reconfigured UL TrCH information 	
 Uplink transport channel type 	DCH
 UL Transport channel identity 	5
- TFS	
- CHOICE Transport channel type	Delicated transport channels
- Dynamic Transport format information	
	Potoronoo to TS24 108 clause 6 10 Perometer Set
- NLO OIZE	This IF is reported for TFL purch and
	(This is repeated for TFT number.)
 Transmission Time Interval 	Not Present
 Number of Transport blocks 	Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Value/remark
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all	Not Present(Refer to SIB type 5)
transport channel	
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required
	when the IE "RRC state indicator" is set to "CELL_FACH",
	need is MP to align with ASN.1"
 Added or Reconfigured DL TrCH information 	
 Downlink transport channel type 	DCH
 DL Transport channel identity 	10
 CHOICE DL parameters 	Same as UL
 Uplink Transport channel type 	DCH
- UL TrCH identity	5
- DCH quality target	Not Present
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink (Nu)	Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)	Reference to clause 5.1 Test frequencies
Maximum allowed UL 1X power	33dBm
CHOICE channel requirement	Not Present
Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
- Downlink information for each radio link	500
	FDD
- Primary CPICH info	100
- Primary scrambling code	100 Nat Descent
- PDSCH WITH SHO DCH INTO	Not Present
- PUSCH code mapping	Not Present
- DOWNIINK DPCH INTO FOR EACH RL	Not present
- SUUPUH Information for FACH	NOT Present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Identification of received message	Not Checked
Protocol error information	
- Protocol error cause	Refer to test requirement.

Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Refer to test requirement.

Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3,	
	A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs are
		omitted.
 message authentication code 		SS calculates the value of MAC-I for this
550		message and writes to this IE.
- RRC message sequence number		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A2, A3,	CELL_DCH
	A4	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3, A4,A5,A6	Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport	A1, A2,	Not Present
channels	A3,A4, A5,	
	A6	
Added or Reconfigured UL TrCH information	A1, A2, A3,	Not Present
	A4,A5, A6	
CHOICE mode	A1,A2,A3,	FDD
	A4,A5,A6	
- CPCH set ID		Not Present
 Added or Reconfigured TrCH 		Not Present
information for DRAC list		
DL Transport channel information common for all	A1, A2, A3,	Not Present
transport channel	A4, A5,A6	
Added or Reconfigured DL TrCH information	A1, A2, A3,	Not Present
	A4,A5, A6	
Frequency info	A1,A2,A3,	
	A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3,	33dBm
	A4,A5,A6	

CHOICE channel requirement A5, A6 Not Present CHOICE channel requirement A1, A2, A3, A4 Uplink DPCH Info - Uplink DPCH power control info - - - PC Preamble - - - PC Preamble - - - PC Preamble - - - Prover Cortrol Algorithm - - - Prover of DPDCH - Number of PB bit - - Sarambing code number - Number of PB bit - - Puncturing Limit A4, A5, A6 Not Present CHOICE Mode A1, A2, A3, Power Charl and uninks A1, A2, A3, - Dunnink information A6, A6 Not Present Downink information common for all radio links A1, A2, A3, - Downink information common for all radio links A1, A2, A3, - Downink information common for all radio links A1, A2, A3, - Downink information common for all radio links A1, A2, A3, - Downink information A5, A6 - Downink information A1, A2, A3, - POWer offset Paisoecol A1, A2, A3, <th>Information Element</th> <th>Condition</th> <th>Value/remark</th>	Information Element	Condition	Value/remark
CHOICE channel requirement A1, A2, A3, A4 Uplink DPCH power offset - Uplink DPCH power offset - PC Preamble - PC Preamble - SRB delay - SrB delay - Ref and Mgorithm - TPC Step size - SrB delay - Ref and Mgorithm - TPC step size - SrB delay - Ref and Mgorithm - TPC Step size - SrB delay - Ref and Mgorithm - Step size - SrB delay - Ref and Mgorithm - spreading factor - Ref and Mgorithm - Triff existence - Number of FBI bit - Reference to TS34.108 clause 6.10 Parameter Set Refer	CHOICE channel requirement	A5, A6	Not Present
-Uplink DPCH power control info A4 - DPCCH power offset -6dB - PC Preamble -6dB - PC Preamble -7 Trames - PC Preamble -7 Trames - PC Preamble -7 Trames - Starnbing code type - - TFCI existence - - Number of FBI bit - - Puncturing Limit - - Downlink PDSCH information A1, A2, A3, A4, A5, A6 Downlink PDSCH information common for all radio links A5, A6 - Downlink PDSCH power control information - - Downlink PDSCH power control information - - Downlink PDCH into common for all RL - - Timing indicator - - CFN-largetSN frame offset - - Downlink PDCH into common for all RL - - Dimediang factor - - Fixed or Flexible Position - - Fixed or Flexible Position - - TFCI existence - - Downlink information for each radio links - - DOWNLINK information for each radio links - - DOWNLINK information for each radio links -	CHOICE channel requirement	A1, A2, A3,	Uplink DPCH info
- UPIC/L power control info - DP/Carbon power control info - DP/Carbon power control info - Power Control Algorithm - TrC step size - Reference to TS34.108 clause 6.10 Parameter Set - Downlink PDSCH information - Downlink information common for all radio links - Divate matching restriction information - Divate matching restriction information - Divate matching restriction - Divate matching restriction - Divate matching restriction - Divate matching restriction - Divate formation - Divate matching restriction - Divate formation - Divate form		A4	
- DPCCH power offset - PCPC anamble -	-Uplink DPCH power control info		
- PC Preamble - SRD delay - Rever Control Algorithm - TPC stag size - Scrambling code type - TFCI existence - Number of FBI bit - Puncturing Limit - TFCI existence - Number of FBI bit - Puncturing Limit - CHOICE Mode - Plower offset Phasenecci - Downlink information common for all radio links - Downlink information common for all radio links - CHOICE mode - CHOICE mode - Fixed or Flexible Position - Dec made - Fixed or Flexible Position - Dec mode - Fixed or Flexible Position - Dec mode - Fixed or Flexible Position - Dec mode - Fixed or Flexible Position - Downlink information for each radio links - CHOICE SF - DOwnlink information for each radio links - HOICE mode - Frixed or Flexible Position - Downlink information for each radio link list - FCI existence - CHOICE SF - DOwnlink information for each radio link list - TFCI existence - CHOICE SF - Downlink information for each radio link list - TFCI existence - CHOICE mode - Primary CPICH Info - Sconding factor - Code structure - Code structure - Code change - Primary CPICH Info - Sconding code - Sconding code change - T-Code primary CPICH Info - Sconding code change - T-Code primary Sconding code - Scor	- DPCCH power offset		-6dB
- SNS deay - Power Control Algorithm - TPC step size - Scrambing code type - TFCI existence - TFCI existence - Downlink PDSCH information - Downlink information common for all radio links - Downlink information common for all radio links - Downlink information for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink DPCH info common for all radio links - Downlink information - DPC made - CHO(CE SF - DPCH compressed mode info - Dict and match information - DPCH compressed mode info - Dict and match information - DPCH compressed mode info - Dict and match information - DPCH compressed mode info - Dict and motion tor each radio links - HO(CE SF - DPCH information code - Power Offet Phasepreti - Decord for the phasepreti - Downlink NPCH information - DPCH code mapping - Downlink NPCH infore contanuel estimatio	- PC Preamble		1 frame
TPC storm of adjuithin TPC storm of adjuithin TPC storm of adjuithin TPC storm of adjuithin TPC storm of a storm of a storm of adjuithin Storm bling adde type Starm bling	- SRB delay		/ frames
- Not step and - Strambling code humber - CHOLEE mode - Strambling code humber - S	TPC stop size		
Scrambling odd yrboches Sumber of DPDCH Syneading factor Sumber of DPDCH Syneading factor TFCI existence Number of FBI bit Puncturing Limit CHOICE Mode Downlink PDSCH information Downlink information common for all radio links Downlink information common for all radio links Downlink information common for all radio links Downlink DPCH info common for all RL Timing indicator CFN-LargetSFN frame offset Downlink DPCH power control information DPCH power control information DPCH compressed mode info TS Diversity mode SSDT information Dereating factor TFCI existence CHOICE SF OHOICE SF	- Scrambling code type		
Number of DPDCH mode spreading factor spreading factor spreading factor TFCI existence TFCI existence Number of FBI bit Puncturing Limit CHOICE Mode Downlink Information common for all radio links Downlink DPCH information Downlink DPCH information Downlink DPCH information OFH registEnt frame offset OFH registEnt frame Offset OFH r	- Scrambling code number		0 (0 to 16777215)
Spreading factor Spreading factor TFCI existence TFCI existence TFCI existence Number of FBI bit Puncturing Limit Puncturing Limit Puncturing Limit CHOICE Mode A1, A2, A3, A4, A5, A6 Not Present Downlink Information or all radio links Downlink Information or all radio links Downlink DPCH information Downlink DPCH information CFN-argetSFN frame offset Downlink DPCH power control Information OFC mode CHOICE mode CHOICE SF OHOICE ST OHOICE SF OHO	- Number of DPDCH		Not Present(1)
• TFCI existence Set Set • Number of FBI bit Reference to TS34.108 clause 6.10 Parameter Set • Puncturing Limit Reference to TS34.108 clause 6.10 Parameter Set • CHOICE Mode A1,A2,A3, • Downlink information common for all radio links A1,A2,A3, • Downlink information common for all radio links A1,A2,A3, • Downlink information common for all radio links A1,A2,A3, • Downlink information common for all radio links A1,A2,A3, • Downlink information common for all radio links A1,A2,A3, • Downlink DPCH power control information Not Present • Downlink information common for all radio links A1,A2,A3, • CHOICE mode • CHOICE mode • CHOICE mode • Fixed or Flexible Position • Tiked or Flexible Position Set • Tric existence Set • Diversity mode Not Present • Downlink information Not Present • Downlink information for each radio link list A1,A2,A3, • Obversity mode A1 • Downlink information for each radio link list A1,A2,A3, • Downlink information for each radio link list A1,A2,A3,	- spreading factor		Reference to TS34.108 clause 6.10 Parameter
TFCI existence Number of FBI bit Puncturing Limit Punct			Set
- Number of FBI bit Set - Puncturing Limit Reference to TS34.108 clause 6.10 Parameter Set CHOICE Mode A1.42.A3, A4,A5,A6 - Downlink Information common for all radio links A5,A6 - Downlink Information common for all radio links A5,A6 - Downlink Information common for all radio links A5,A6 - Downlink DPCH information A5,A6 - Downlink DPCH were control linformation A1,A2,A3, A4 - Timing indicator CFN-targetSPN frame offset - Downlink DPCH power control information Not Present - Deromde - Offset - CHOICE mode - Fibed - Fixed or Flexible Position FDD - Tricl existence Not Present - Tricl existence Set - Default DPCH Offset Value Not Present - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4 - Downlink Information for each radio link list A1, A2, A3, A4	- TFCI existence		Reference to TS34.108 clause 6.10 Parameter
Number of FBI bit Puncturing Limit Puncturing Limituring Puncturing Puncturing Limituring			Set
- Puncturing Limit Set Reference to TS34.108 clause 6.10 Parameter Set CHOICE Mode A1.A2.A3, A4,A5,A6 FDD - Downlink PDSCH information A5,A6 Not Present Downlink Information common for all radio links A1, A2, A3, A4 Not Present - Downlink Information common for all radio links A1, A2, A3, A4 Not Present - Downlink Information common for all radio links A1, A2, A3, A4 Not Present - Downlink DPCH power control information - OPC mode Not Present Not Present - Downlink DPCH power control information - OPC mode Not Present Not Present - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set Not Present - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set Set - DPCH compressed mode info - TX Diversity mode Not Present Not Present - Downlink information for each radio links A1, A2, A3, A4 Not Present - Downlink information for each radio links A1, A2, A3, A4 PDD - Downlink information for each radio links A1, A2, A3, A4 Not Present - Downlink information for each radio links A1, A2, A3, A4 PDD - Downlink information for each radio links A1, A2, A3, A4 PDD - Downlink information for each R1. A1, A2, A3, A4 PDD<	- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter
Puncturing Limit Reference to TS34.108 clause 6.10 Parameter Set CHOICE Mode A1,A2,A3, A4,A5,A6 Not Present Downlink Information common for all radio links A5,A6 Not Present Ownlink Information common for all radio links A1,A2,A3, Downlink DPCH info common for all radio links A1,A2,A3, A4 Not Present OutrageISFN frame offset OutrageISFN frame offs			Set
CHOICE Mode A1,A2,A3, A1,A5,A6 FDD Downlink Information common for all radio links A5, A6 Not Present Downlink information common for all radio links A5, A6 Not Present Downlink information common for all radio links A1, A2, A3, A4 A4 - Downlink DPCH info common for all RL - Timing indicator A1 A4 - Downlink DPCH oper control information - DPC mode O (single) FDD - Othore offset Peue-peoch Not Present Not Present - Downlink information restriction information - Spreading factor Not Present - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set Not Present - TFCI existence - CHOICE SF Otherwise Not Present - Deventive information - Defet Compressed mode info Not Present Not Present - Deventive information for each radio link list A1, A2, A3, A4 A4 - Downlink information for each radio link list A1, A2, A3, A4 FDD - Deventive information for each radio links A1, A2, A3, A4 FDD - Deventive restrict Streamoting acode A1	- Puncturing Limit		Reference to TS34.108 clause 6.10 Parameter
CHOICE Mode A1, A2, A3, A4, A5, A6 PDD - Downlink PDSCH information common for all radio links A5, A6 Not Present Downlink Information common for all radio links A1, A2, A3, A4 Not Present - Downlink DPCH info common for all RL - Timing indicator A1, A2, A3, A4 Not Present - Downlink DPCH power control information - DFC mode A1, A2, A3, A4 A4 - Downlink DPCH power control information - DFC mode O (single) - Power offset Peimopocit 0 (single) - DU rate matching restriction information - Spreading factor Not Present - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links A1, A2, A3, A4 - Downlink information for each RL - Primary CPICH info Primary CPICH may be used 0 ochips - DEGE wide Peimoporti - Secondary CPICH info Primary CPICH may be used 0 of hips - Downlink information code A4			Set
- Downlink PDSCH information A4,A5,A6 Downlink information common for all radio links A5,A6 Downlink information common for all radio links A1,A2,A3,A4 - Downlink DPCH info common for all RL A1,A2,A3,A4 - Timing indicator A1,A2,A3,A4 - Downlink DPCH info common for all RL Maintain - Timing indicator Not Present - Downlink DPCH power control information Optimation Spreading factor - Flixed or Flexible Position Not Present - Frixed or Flexible Position Not Present - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - Defult DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each RL Primary CPICH info - Primary CPICH usage for channel estimation Primary CPICH may be used - Downlink information code Spr	CHOICE Mode	A1,A2,A3,	FDD
- Downlink Information common for all radio links A5, A6 Not Present Downlink Information common for all radio links A1, A2, A3, A4 A4 - Downlink DPCH info common for all RL A4 A4 - Trining indicator GRN-targetSFN frame offset Not Present - Downlink DPCH power control information - DFC mode 0 (single) - Power offset Phisophoch 0 0 - Durate matching restriction information - Spreading factor 0 (single) - Fixed or Flexible Position - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set - DCHCE SF - Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each RL Primary CPICH info - Primary CPICH info Primary CPICH info - PDSCH code mapping O <td>Devertiste DDOOLListerer etier</td> <td>A4,A5,A6</td> <td>Net Dresset</td>	Devertiste DDOOLListerer etier	A4,A5,A6	Net Dresset
Downlink information common for all radio links A5, A2 Not Present Downlink information common for all RL Timing indicator A4 CRN-targetSFN frame offset Downlink information control information DPC mode CHOICE mode Power offset Pieusoppoch DLICE mode Fixed or Flexible Position Fixed or Flexible Position FFCI existence CHOICE SF DPCH compressed mode info TX Diversity mode SDPCH compressed mode info TX Diversity mode SDFL information Default DPCH offset Value Downlink information for each radio link list CHOICE mode PDECH compressed mode info TX Diversity mode SDFL information Default DPCH offset Value Downlink information for each radio link list CHOICE mode PDECH code mapping Downlink information for each Ralio link list CHOICE mode Primary CPICH info Primary CPICH info Primary CPICH info Power offset Pieusoppoid Secondary CPICH info Power offset Pieusoppoid Scrambling code Spreading factor Code number Scrambling code Spreading code change TC code number Scrambling code change TC code number Scrambling code change TC combination indux there thorde Spreading code change TC combination indux TC code loon timino adjustment mode Chore longe in lodex	- DOWNINK PDSCH Information		Not Present
Downlink Information common for all RL A4 Timing indicator Maintain CFN-targetSFN frame offset Not Present Downlink DPCH power control information 0 (single) - PC mode 0 (single) - CHOICE mode 0 (single) - Power offset Philosopeoch 0 (single) - DL rate matching restriction information Power offset Philosopeoch - Spreading factor Not Present - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - DPCH compressed mode info Not Present - TX Diversity mode Not Present - Stor information Pointary scrambing code - Primary CPICH info FDD - Primary CPICH info FDD - Primary CPICH info Not Present - Downlink INFOD DCH info Primary CPICH info - Primary CPICH info Not Present - Primary CPICH info Not Present - Downlink DPCH offset Value Not Present - Downlink INFO DCH info Primary CPICH may be used	Downlink information common for all radio links		Not Present
Downlink DPCH info common for all RL Trining indicator GFN+targetSFN frame offset Downlink DPCH power control information DPC mode CHOICE mode TFixed or Flexible Position Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF CHOICE SF CHOICE SF CHOICE SF CHOICE SF CHOICE SF CHOICE Mode SSDT information Derth compressed mode info TX Diversity mode SSDT information for each radio link list CHOICE mode Power offset Value Downlink information for each radio link list CHOICE mode PDSCH with SHO DCH info PDSCH with SHO DCH info PDSCH with SHO DCH info PDCH frame offset ChOICE mode Spreading factor Choice mode Spreading factor Choice mode CHOICE mode Choice mode Spreading factor Choice mode		A_1, A_2, A_3, A_4	
- Timing indicator Maintain - Timing indicator Maintain - CRV-targetSFN frame offset Not Present - Downlink DPCH power control information 0 (single) - DUC mode 0 - Duce mode 0 - Distemation - Efreence to TS34.108 clause 6.10 Parameter - TFCI existence Reference to TS34.108 clause 6.10 Parameter - Otherwise Not Present - Deversity mode None - SSDT information Not Present - Dewnlink information for each radio link list A1, A2, A3, A4 - Downlink information for each RL Primary CPICH info - Primary CPICH info Not Present - Duch may be used 0 chips - Duch may be used 0	- Downlink DPCH info common for all RI	A4	
- CFN-targetSFN frame offset - Downlink DPCH power control information - DPC mode - CHOICE mode - CHOICE mode - Di rate matching restriction information - Spreading factor - Fixed or Flexible Position - TFCI existence - CHOICE SF - CHOICE SF - CHOICE SF - DPCH compressed mode info - TX Diversity mode - SDT information - DPCH diversest - Default DPCH Offset Value Downlink information for each radio link list - CHOICE mode - Primary CPICH info - DPCH company - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Code number - Socondary scrambling code - Spreading factor - Code number - Code	- Timing indicator		Maintain
Downlink DPCH power control information DPC mode CHOICE mode Power offset P _{FilesDPCDH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence TFCI existence CHOICE SF DPCH compressed mode info TX Diversity mode Sob Information Detault DPCH Offset Value Downlink information for each radio link list CHOICE mode Power offset P _{PilesDPCH} Detault DPCH Offset Value Downlink information for each radio link list CHOICE mode POSCH with SHO DCH info PDSCH code mapping Downlink DPCH info PDSCH code mapping Downlink DPCH info PDSCH code mapping Downlink DPCH info PDSCH with SHO DCH info Secondary CPICH info Scrambling code Spreading factor Code number Code number Code number Code number Code number Start Cell Identity Closed loop nino adjustment mode Start Code loop nino adjustment mode Start Cell Identity Closed loop nino adjustment mode	- CFN-targetSFN frame offset		Not Present
 DPC mode CHOICE mode Power offset P_{blob-DPDCH} DL rate matching restriction information Spreading factor Fixed or Flexible Position TFCI existence CHOICE SF DPCH compressed mode info TV Diversity mode SSDT information for each radio link list CHOICE mode Primary CPICH info O whilk information code Secondary cPICH info Channelisation code Secondary cPICH info Code number Code number Code number Code number Source of the change TCC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- Downlink DPCH power control information		
- CHOICE mode - Power offset Privet/DPDCH - DL rate matching restriction information - Spreading factor - Fixed or Flexible Position - TFCI existence - TFCI existence - CHOICE SF - DPCH compressed mode info - TX Diversity mode - SSDT information - Default DPCH Offset Value - Downlink information for each radio links - CHOICE mode - Primary CPICH info - DPSCH with SHO DCH info - Secondary scrambling code - Secondary scrambli	- DPC mode		0 (single)
 Power offset PPINE-DPDCH DL rate matching restriction information Spreading factor Fixed or Flexible Position Fixed or Flexible Position TFCI existence CHOICE SF DPCH compressed mode info SDD information Default DPCH Offset Value Downlink information for each radio link list Default DPCH Offset Value Downlink information for each radio link list CHOICE mode Primary CPICH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH info DDCH frame offset Downlink DPCH info DDSCH code mapping Downlink DPCH info DDCH frame offset Primary CPICH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH info DDCH frame offset Secondary Scrambling code Secondary scrambling code Spreading factor Secondary scrambling code Secondary scrambling code Spreading factor Secondary scrambling code Secondary scrambling	- CHOICE mode		FDD
- DL rate matching restriction information Not Present - Spreading factor Reference to TS34.108 clause 6.10 Parameter Set - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - DPCH compressed mode info Not Present - TX Diversity mode Not Present - SDD information Not Present - Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links FDD - Primary CPICH info 100 - PDSCH with SHO DCH info 100 - PoscCH compage for channel estimation Downlink DPCH info for each RL - Power offset PriceDPCH 0 - Secondary Scrambling code 4 - Secondary scrambling code 6.10 Parameter - Code number 0 - Scrambling code change Not Present - Combination index	- Power offset P _{Pilot-DPDCH}		0
- Spreading factor Reference to TS34.108 clause 6.10 Parameter Set - Fixed or Flexible Position Reference to TS34.108 clause 6.10 Parameter Set - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - DPCH compressed mode info Not Present - TTX Diversity mode None - SSDT information Not Present - Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links FDD - CHOICE mode FDD - Primary CPICH info 100 - PDSCH code mapping Not Present - Downlink DPCH info for each RL Primary CPICH may be used - Primary CPICH info Not Present - Power offset Prime-DPCH 0 - Secondary CPICH info Not Present - Secondary scrambling code 4 - Secondary scrambling code 4 - Secondary scrambling code 6.10 Parameter - Secondary scrambling code 6 - Secondary scrambling code 4 - Secondary scrambling code 6 <t< td=""><td> DL rate matching restriction information </td><td></td><td>Not Present</td></t<>	 DL rate matching restriction information 		Not Present
- Fixed or Flexible Position Set - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - TFCI existence Reference to TS34.108 clause 6.10 Parameter Set - CHOICE SF Otherwise - DPCH compressed mode info Not Present - TX Diversity mode Not Present - SSDT information Not Present - Default DPCH Offset Value A1, A2, A3, A4 Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links A4 - CHOICE mode FDD - Primary CPICH info Not Present - POSCH with SHO DCH info Not Present - Power offset Peint-PPICH 0 - Decondary CPICH info Primary CPICH may be used - POSCH code mapping 0 - Downlink DPCH info for each RL Primary CPICH may be used - Primary CPICH info Not Present - Secondary CPICH info Not Present - Secondary scrambling code 4 - Secondary scrambling code 4 - Secondary scrambling code 0 - Secondary scrambling code 0 - Secondary	- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
 Fixed of Flexible Position Fixed of Flexible Position TFCI existence CHOICE SF DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value Downlink information for each radio link list Powen offset Primary Scrambling code PDSCH code mapping Downlink SHO DCH info Primary CPICH info DPCH frame offset Power offset Prilot-DPDCH Secondary CPICH offset Value Choice and primation offset Secondary CPICH info Secondary CPICH offset Code Spreading factor Standbard factor Sorambling code change TPC combination index Sorambling code change TPC combination index<td>Final an Flavible Desition</td><td></td><td>Set</td>	Final an Flavible Desition		Set
 TFCI existence CHOICE SF DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value Downlink information for each radio link list CHOICE mode Primary CPICH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset PFliot-DPCH Secondary CPICH info Deven offset PFliot-DPCH Secondary CPICH info Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Attack 	- Fixed of Flexible Position		Set
 CHOICE SF DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value Downlink information for each radio link list Downlink information for each radio links CHOICE mode Primary CPICH info Primary CPICH info PDSCH ode mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset PPidetOPICH Secondary CPICH info Deventifiest PridetOPICH Secondary CPICH info Strambling code Scrambling code change TPC combination index SSDT Cell Identity Closed lopp timing adjustment mode Not Present Not Present 	- TECL existence		Reference to TS3/ 108 clause 6 10 Parameter
CHOICE SF DPCH compressed mode info TX Diversity mode SSDT information Default DPCH Offset Value Downlink information for each radio links CHOICE mode Primary CPICH info Primary CPICH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH rame offset Power offset P _{Plidt-DPDCH} Secondary Scrambling code Spreading factor Code number Scambling code change TPC combination index Closed loop timing adjustment mode			Set
- DPCH compressed mode info Not Present - TX Diversity mode None - SSDT information Not Present - Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links A1, A2, A3, A4 - Downlink information for each radio links FDD - Primary CPICH info 100 - PDSCH with SHO DCH info 100 - PDSCH code mapping Not Present - Downlink DPCH info for each RL Primary CPICH usage for channel estimation - DPCH frame offset 0 - Power offset PPikeboreCH 0 - Secondary CPICH info Not Present - Duchannelisation code 4 - Spreading factor 8 - Code number 0 - Scambling code change 0 - TPC combination index 0 - SSDT Cell Identity Not Present - Closed loop timing adjustment mode 0	- CHOICE SF		Otherwise
- TX Diversity mode None - SSDT information Not Present - Default DPCH Offset Value A1, A2, A3, A4 - Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links FDD - CHOICE mode FDD - Primary CPICH info 100 - PDSCH with SHO DCH info Not Present - PDSCH code mapping Not Present - Downlink DPCH info for each RL Primary CPICH usage for channel estimation - DPCH frame offset 0 - Power offset PPikeDPDCH 0 - Secondary CPICH info Not Present - Duchannelisation code 4 - Spreading factor 6 - Code number 0 - Scambling code change 0 - TPC combination index 0 - SSDT Cell Identity Not Present - Closed loop timing adjustment mode 0	- DPCH compressed mode info		Not Present
- SSDT information Not Present - Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links A1, A2, A3, A4 - Downlink information for each radio links FDD - CHOICE mode FDD - Primary CPICH info 100 - PDSCH with SHO DCH info 100 - PDSCH code mapping Not Present - Downlink DPCH info for each RL Primary CPICH usage for channel estimation - DPCH frame offset 0 - Not Present 0 - Secondary CPICH info 0 - Secondary cPICH info 4 - Secondary scrambling code 4 - Secondary scrambling code 4 - Scrambling code change 0 - TPC combination index 0 - SSDT Cell Identity 0 - Closed loop timing adjustment mode Not Present	- TX Diversity mode		None
- Default DPCH Offset Value Not Present Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links FDD - CHOICE mode FDD - Primary CPICH info 100 - PDSCH code mapping Not Present - Downlink DPCH info for each RL Not Present - Primary CPICH usage for channel estimation Not Present - DPCH frame offset 0 - DVewer offset PPilet-DPDCH 0 - Secondary CPICH info 0 - Secondary CPICH info 4 - Secondary Scrambling code 4 - Scrambling code change 4 - Scrambling code change 0 - Scorabling code change 0 - TPC combination index 0 - Sclosed loop timing adjustment mode 0	- SSDT information		Not Present
Downlink information for each radio link list A1, A2, A3, A4 - Downlink information for each radio links FDD - CHOICE mode FDD - Primary CPICH info 100 - PDSCH with SHO DCH info 100 - PDSCH code mapping Not Present - Downlink DPCH info for each RL Primary CPICH usage for channel estimation - DPCH frame offset 0 - Power offset PPI0F-DPDCH 0 - Secondary CPICH info 0 - Secondary CPICH info 4 - Spreading factor 4 - Code number 0 - Code number 0 - Scrambling code change 0 - TPC combination index 0 - SSDT Cell Identity Not Present - Closed loop timing adjustment mode Not Present	- Default DPCH Offset Value		Not Present
A4 - Downlink information for each radio links - CHOICE mode - Primary CPICH info - Primary scrambling code - PDSCH with SHO DCH info - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Power offset P _{Pilot-DPDCH} - Secondary CPICH info - DL channelisation code - Secondary scrambling code - Spreading factor - Code number - Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode - Code number - Closed loop timing adjustment mode - Closed loop timing adjustment mode - Closed loop timing adjustment mode - Code number - Closed loop timing adjustment mode - Closed loop timing adju	Downlink information for each radio link list	A1, A2, A3,	
 Downlink information for each radio links CHOICE mode Primary CPICH info PDSCH with SHO DCH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info Secondary scrambling code Secondary scrambling code Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 		A4	
 CHOICE mode Primary CPICH info Primary scrambling code PDSCH with SHO DCH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{PIOt-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Primary CPICH info Not Present 	- Downlink information for each radio links		
 Primary CPICH Into Primary scrambling code PDSCH with SHO DCH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{PIlot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- CHOICE mode		FDD
 PDSCH with SHO DCH info PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Secondary scrambling code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- Primary CPICH III0		100
 PDSCH code mapping Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Secondary scrambling code Spreading factor Code number Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- PDSCH with SHO DCH info		Not Present
 Downlink DPCH info for each RL Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- PDSCH code mapping		Not Present
 Primary CPICH usage for channel estimation DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- Downlink DPCH info for each RL		
 DPCH frame offset Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode O chips O chips O chips O chips O chips Not Present O Not Present No change O Not Present Not Present 	- Primary CPICH usage for channel estimation		Primary CPICH may be used
 Power offset P_{Pilot-DPDCH} Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Not Present Not Present Not Present Not Present Not Present Not Present 	- DPCH frame offset		0 chips
 Secondary CPICH info DL channelisation code Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Not Present Not Present Not Present Not Present 	- Power offset P _{Pilot-DPDCH}		0
 DL channelisation code Secondary scrambling code Spreading factor Code number Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode 	- Secondary CPICH info		Not Present
 Secondary scrambling code Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Vot Present Not Present 	- DL channelisation code		
 Spreading factor Code number Scrambling code change TPC combination index SSDT Cell Identity Closed loop timing adjustment mode Reference to TS34.108 clause 6.10 Parameter Set No change No change Not Present Not Present 	- Secondary scrambling code		4
- Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode	- Spreading factor		Reterence to IS34.108 clause 6.10 Parameter
- Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode	Cada number		Set
- Strambing code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode Not Present Not Present	- Code number		U No shanga
- SSDT Cell Identity - Closed loop timing adjustment mode	- Strampling code thange		
- Closed loop timing adjustment mode	- SSDT Cell Identity		Not Present
	- Closed loop timing adjustment mode		Not Present

Information Element	Condition	Value/remark
 SCCPCH information for FACH 		Not Present
 Downlink information for each radio link 	A5	
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
 Downlink DPCH info for each RL 		Not present
 SCCPCH information for FACH 		Not Present
 Downlink information for each radio link 	A6	
- Choice mode		FDD
- Primary CPICH info		
 Primary scrambling code 		150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
 Downlink DPCH info for each RL 		Not present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in
	the downlink TRANSPORT CHANNEL
	RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	Its as stated below. Else, this It and the sub-Its shall
- Message authentication code	This IE is checked to see if it is present. The value is
	This IF is checked to one if it is present. The value is
- RRC message sequence number	used by SS to compute the XMAC Lyalue
Liplink integrity protection activation info	Not checked
	FDD
COUNT-C activation time	The presence of this IF depends on the following 2
	factors: (a) There exists RB(s) mapped to RI C-TM and
	(b) UE is transiting to CELL DCH state after the
	reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement

Contents of TRANSPORT FORMAT COMBINATION CONTROL message: AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 Message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC Message sequence number 	SS provides the value of this IE, from its internal counter.
CHOICE mode	FDD
DPCH/PUSCH TFCS in Uplink	
- CHOICE Subset representation	Allowed transport format combination list
 Allowed Transport format combination 	0 (The TFC is constructed from ALL TF0)
Activation time for TFC subset	Not Present
TFC Control duration	Not Present

Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Malue Incorport
Information Element	value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
 RRC Message sequence number Capability update requirement 	SS provides the value of this IE, from its internal counter.
- UE radio access <u>FDD</u> capability update requirement	TRUE
- UE radio access TDD capability update	FALSE
- System specific capability update requirement list	Not Present

Contents of UE CAPABILITY INFORMATION message: AM

Message Type RRC transaction identifier Integrity check info Integrity check info - Message authentication code - Message sequence number - RRC Message sequence number UE radio access capability - ICS Version - PDCP Capability - RE C apability - RE C apability - RE C apability - RE C apability - Nessage sequence number UE radio access capability - Ness ape authentication code - RRC Message sequence number UE radio access capability - Ness ape sequence number UE radio access capability - RE C Applicity - RE C Capability - RE C Capability FDD - RE C Capability - West channel capability - UE multi-mode/multi-RAT capability - LCS C capability - Measurement capability - LCS Capability - Measurement capability - UE radio access capability <	Information Element	Value/remark
RRC transaction identifier Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message. Integrity check info The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent. - Message authentication code This IE is checked to see if it is present. The value is compared against the XMAC-I value. - RRC Message sequence number This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value. UE radio access capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings - ICS Version - PDCP Capability - RE Capability Checked to agability - RE Capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE radio access capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE radio access capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings	Message Type	
Integrity check infoThe presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub- IEs as stated below. Else, this IE and the sub-IEs shall be absent Message authentication codeThis IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS RRC Message sequence numberThis IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.UE radio access capabilityValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings- ICS Version - PDCP Capability - RE Capability FDD - RF Capability FDD - Physical channel capability - UE multi-mode/multi-RAT capability - UE multi-mode/multi-RAT capabilityUE radio access capabilityValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settingsUE radio access capability - UE system specific capabilityValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings	RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
 Message authentication code RRC Message sequence number RRC Message sequence number This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS. This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value. UE radio access capability ICS Version PDCP Capability REC Capability REC Capability RE Capability RF Capability FDD Physical channel capability UE multi-mode/multi-RAT capability LCS Capability Measurement capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings	Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
 - RRC Message sequence number - RRC Message sequence number - Rec Message sequence number - Transport channel capability - RF Capability TDD - Physical channel capability - UE multi-mode/multi-RAT capability - LCS Capability - LCS Capability - UE multi-mode/multi-RAT capability - LCS Capability - UE multi-mode/multi-RAT capability - UE radio access capability - Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings 	- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
UE radio access capabilityValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings- ICS Version - PDCP Capability - RLC Capability - RLC Capability - RF Capability FDD - RF Capability TDD - Physical channel capability - UE multi-mode/multi-RAT capability - Security Capability - Measurement capability - Measurement capability UE radio access capability extensionValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settingsUE system specific capability - UE system specific capabilityValue will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings	- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
 ICS Version PDCP Capability RLC Capability Transport channel capability RF Capability FDD RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
 PDCP Capability RLC Capability Transport channel capability RF Capability FDD RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	- ICS Version	C C
 RLC Capability Transport channel capability RF Capability FDD RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability We radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	- PDCP Capability	
 Transport channel capability RF Capability FDD RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	- RLC Capability	
 RF Capability FDD RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	 Transport channel capability 	
 RF Capability TDD Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked 	- RF Capability FDD	
 Physical channel capability UE multi-mode/multi-RAT capability Security Capability LCS Capability Measurement capability UE radio access capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings UE system specific capability Not Checked	- RF Capability TDD	
- UE multi-mode/multi-RAT capability - Security Capability - LCS Capability - Measurement capability UE radio access capability extension UE system specific capability UE system specific capability UE system specific capability	- Physical channel capability	
- Security Capability - LCS Capability - Measurement capability UE radio access capability extension UE system specific capability UE system specific capability	- UE multi-mode/multi-RAT capability	
- LCS Capability - Measurement capability UE radio access capability extension UE system specific capability UE system specific capability UE system specific capability UE system specific capability UE system specific capability	- Security Capability	
UE system specific capability UE system specific capability UE system specific capability UE system specific capability UE system specific capability	- LCS Capability Measurement capability	
UE system specific capability extension Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings Not Checked	- Measurement capability	Value will be checked. Stated capability must be
UE system specific capability Not Checked		compatible with 34.123-2 (ICS statements) and the user
	UE system specific capability	Not Checked

Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
 RRC Message sequence number 	SS provides the value of this IE, from its internal counter.

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
 Message authentication code 	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
 RRC Message sequence number 	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

A.2 Default RRC Message Contents (3.84 Mcps TDD)

[FFS]

A.3 Default RRC Message Contents (1.28 Mcps TDD)

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type "GSM-MAP"), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used. Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
 Message authentication code 	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
 RRC Message sequence number 	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
START List	Checked to see if the 'CN domain identity' and 'START'
	IEs are present for all CN domains supported by the UE
- CN domain identity	Checked to see if it is one of the supported CN domains
- START	Checked to see if it is present
AM_RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM_RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC State indicator	CELL_FACH
UTRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE
	Not Present
URA identity	0000 0000 0001B
RB information to release list	Not Present
RB information to reconfigure list	Not Present
RD Information to be affected list	Not Present
LIL Transport channel information common for all	Not Present
	NOT FIESEII
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE mode	
DL Transport channel information common for all	Not Present
transport channels	
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	TDD
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IF is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else this IE and the sub-IEs are omitted
- Message authentication code	SS calculates the value of MAC-I for this message and
Moodage admonification code	writes to this IF
- RRC message sequence number	SS provides the value of this IF from its internal counter
Measurement Identity	
Measurement Command	Setun
Measurement Reporting Mode	Setup
- Measurement Report Transfer Mode	Acknowledged mode RI C
- Measurement Report Transfer Mode	Periodical reporting
Mode	r enouical reporting
Additional measurement list	Not Present
	Intra-frequency measurement
- Intra-frequency measurement	Intra-frequency measurement
Intra-frequency cell info	
- New intra-frequency cell	
- New Inita-frequency cell	0
Coll info	0
- Cell IIIIO Coll individual offect	
- Cell Individual Offset	UUD Nat Brassent
- Reference time difference to cell	Not Present
- Read SFN number	FALSE
	UU
- Primary CCPCH info	
-CHOICE mode	
-CHOICE IDD option	1.28 Mcps IDD
-TSTD indicator	TRUE
-Cell parameters ID	4
-Block STTD indicator	TRUE
- Primary CCPCH TX power	Not Present
- Timeslot List	Not Present
 Intra-frequency measurement quantity 	
- Filter coefficient	0
- CHOICE mode	TDD
 Measurement quantity list 	
- Measurement quantity	Primary CCPCH RSCP
 Intra-frequency reporting quantity 	
 Reporting quantities for active set cells 	
 SFN-SFN observed time difference reporting 	No report
indicator	
 Cell synchronisation information reporting 	FALSE
indicator	
 Cell Identity reporting indicator 	TRUE
- CHOICE mode	TDD
 Timeslot ISCP reporting indicator 	FALSE
 Proposed TGSN Reporting required 	FALSE
 Primary CCPCH RSCP reporting indicator 	TRUE
 Pathloss reporting indicator 	FALSE
 Reporting quantities for monitored cells 	
 SFN-SFN observed time difference reporting 	No report
indicator	
 Cell synchronisation information reporting 	FALSE
indicator	
 Cell Identity reporting indicator 	TRUE
- CHOICE mode	TDD
- Timeslot ISCP reporting indicator	FALSE
- Proposed TGSN Reporting required	FALSE
- Primary CCPCH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored cells on

	used frequency.
 Maximum number of reported cells 	2
- Measurement validity	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
 Intra-frequency measured results 	
- Cell measured results	
- Cell Identity	Not present
- SFN-SFN observed time difference	Checked that this IE is absent
 Cell synchronisation information 	Checked that this IE is absent
- CHOICE mode	Checked that this is TDD
- Cell parameters Id	4
- Proposed TGSN	Checked that this IE is absent
- Primary CCPCH RSCP	Checked that this IE is present.
- Pathloss	Checked that this IE is absent
- Timeslot list	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the
	USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record	
- CHOICE Used paging identity	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the
	USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE 2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging record type identifier	Select the same type as in the IE "Initial UE Identity" in
	RRC CONNECTION REQUEST" message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		with the values of the sub IEs as stated
		below. Else, this IE and the sub-IEs are
		omitted.
 message authentication code 		SS calculates the value of MAC-I for this
		message and writes to this IE.
 RRC message sequence number 		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
		Not Present
New C-RNTI	A4 A0 A0	
RRC State Indicator	A1, A2, A3,	CELL_DCH
PPC State indicator		
LITRAN DRY avala langth apofficiant	A5, A0	
CN information info		Not Present
		Not Present
Downlink counter synchronisation info		Not Present
Frequency info		Not Tresent
-CHOICE mode		חחד
- UARECN(Nt)		Reference to TS34 108 clause 5 1 Parameter
		set.
Maximum allowed UL TX power		30dBm
CHOICE channel requirement		Uplink DPCH info
Uplink DPCH info	A1, A2, A3,	
•	A4	
- CHOICE mode		TDD
 Uplink DPCH power control info 		
- UL Target SIR		Reference to TS34.108
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1 dB
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		
		Not Present
		1
- IFCS ID Time infe		
- Time into		
- Duration		infinite
- Common timeslot info		
- 2 nd interleaving mode		Reference to TS34 108 clause 6 Parameter
		Set.
- TECI coding		Reference to TS34,108 clause 6 Parameter
······································		Set.
- Puncturing Limit		Reference to TS34.108 clause 6 Parameter
5		Set.
- Repetition Period		Reference to TS34.108 clause 6 Parameter
		Set.
- Repetition Length		Reference to TS34.108 clause 6 Parameter
		Set
 Uplink DPCH timeslots and codes 		
 First timeslot information 		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has
		unassigned codes.
- IFCI existence		IKUE
- Midamble shift and burst type		4.00 Mars
- CHOICE IDD option		1.28 Mcps

- Midamble Allocation Mode	I	Default
 Midamble configuration 		16
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each channelisation code
		assigned in the slot to meet the needs of
		TS34.108 clause 6 Parameter Set.
- Channelisation Code		(i/SF) where i denotes an unassigned code
		matching the SF specified in TS34.108
		clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on the
		number of resources specified in TS34.108
		section 6 and the number of slots in which
		they are assigned.
CHOICE Mode		TDD
Downlink information common for all radio links	A1 A2 A3	
	A4	
- Downlink DPCH info common for all RI	7.4	
- Downlink Dr Orrinio common for all RE		Maintain
- CEN-targetSEN frame offset		Not Present
Downlink DPCH power control information		Not riesent
		חחד
		1
-TPC Step Size		
- CHOICE mode		1 DD
- Default DPCH Offset Value		Not Present
Downlink information for each radio links		TDD
		טטו
- Primary CCPCH info		
- CHOICE mode		IDD
- CHOICE IDD option		1.28 Mcps
- ISID indicator		IRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
- 2 nd interleaving mode		Reference to TS34.108
- TFCI coding		TRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter
		Set
- Repetition period		1
- Repetition length		Empty
 Downlink DPCH timeslots and codes 		
 First Individual timeslot info 		
 Individual timeslot info 		
- Timeslot number		The number of an downlink timeslot that has
		unassigned codes.
- TFCI existence		TRUE
 Midamble shift and burst type 		
- CHOICE TDD option		1.28 Mcps
 Midamble allocation mode 		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
 First timeslot channelisation codes 		
- First channelisation code		(i/SF) where i is the lowest numbered code
		that is being assigned and SF is specified in
		TS34.108 clause 6 Parameter Set.
 Last channelisation code 		(j/SF) where j is the highest numbered code
		that is being assigned in the slot.

- Bitmap	Bitmap of codes that are assigned in the slot.
- CHOICE more timeslots	The presence of this IE depends upon
	whether the requirements of TS34.108
	Parameter Set can be met by the codes that
	have been assigned in the first timeslot.
- Secondary CCPCH info	Not Present
- References to system information blocks	Not Present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER SETUP message: AM or UM

Message Type Arbitrarily selects an integer between 0 and 3 The presence of this IE is dependent on IXIT stated below. Else, this IE and the sub-IEs are omitcal. RRC massage authentication code RRC message sequence number Ciphering mode info Ciphering mode command Ciphering adivation time for DPCH RRC State indicator A1, A2, RRC State indicator A1, A2, RRC State indicator A1, A2, RC State indicator A1, A2, A3, A4 RRC State indicator A1, A2, RC State indicator A1, A2, RRC State indicator A1, A2, RC State indicator A2, A2 RRE State indicator A3, A4 RRE State indicator A2, A2 RRE State indicator A2, A2 RRE State indicator A2, A2 RRE filter indicator A3, A4 RRE State indicator RRE State indicator RA1, A2, A2 RRE filter i	Information Element	Condition	Value/remark
RRC framaction identifier Arbitrarily selects an integer beyond on IXIT Integrity check info The presence of this IE is dependent on IXIT Integrity check info The presence of this IE is dependent on IXIT Integrity check info Science of this IE is dependent on IXIT Integrity protection is indicated be active, this IE is dependent on IXIT Science of this IE is dependent on IXIT Integrity protection mode info SS calculates the value of MAC-I for this message and writes to this IE. Ciphering mode command SS calculates the value of the sub-IEs are omitted. Ciphering adjointinn Ciphering adjointinn for DPCH Rec State indicator A1. A2, Rec CRNTI A1. A2, Rec State indicator A3. A4 RRC State indicator A3. A4 RAB information to setup A1 RAB information indication Not Present RAB information to setup A1 RAB information to setup A1 RAB information to setup Not Present RAB information to setup Not Present	Message Type		
Integrity check into Integrity check into Integrity check into Integrity check into Integrity protection is indicated to balance, this IE is dependent on IXII statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is an essage authentication code RRC message sequence number Integrity protection mode info Ciphering mode info Ciphering mode command Ciphering adviator time for DPCH Cinformation for Setup Cinformation to setup Cinformation to setup Cinformation to setup Cinformation to setup CAB information infocator CHOICE Upink RLC mode CHOICE Upink RLC mode CHOICE Coveniuk RLC mode CHOICE Co	RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
- message authentication code - message authentication code - message authentication code - message authentication code - RRC message sequence number - Scitzulates the value of MAC-I for this message and writes to this E. - RC message sequence number Scitzulates the value of this ZL if form its message and writes to this E. - Ciphering mode info Scitzulates the value of this ZL if form its indicator this form its difference with the values of the sub life as stated below. Else, this I construct with the values of the sub life as stated below. Else, this I construct with the values of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the values of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I construct the value of the sub life as stated below. Else, this I consthe value of the sub life as stated below.	Integrity check info		The presence of this IE is dependent on IXIT
- message authentication code - message authentication code - RRC message sequence number - Integrity protection mode info Cphering mode command - Cphering mode command - Cphering adjointim - Cphore adjoint adjoint - Cpheri			statements in TS 34.123-2. If integrity
- message authentication code - message authentication code - RC message sequence number Integrity protection mode info Ciphering mode command - Ciphering mode command - Ciphering adortmm - Rab information to setup - RAB information to setup - RAB information to setup - CHOICE Upink RLC mode - Transport channel type - CHOICE Hownlink RLC mode - Transport channel type - DuDrink RLC cogoal channels - Dubrink transport c			protection is indicated to be active, this is is
- message authentication code omittidi. - RRC message sequence number Scalculates the value of MAC-I for this message and writes to this IE. Integrity protection mode info Scalculates the value of MAC-I for this Ciphering mode info The present of this IE. is dependent on IXIT Ciphering adde command Scalculates the value of this IE. is dependent on IXIT - Ciphering adde command Scalculates the value of this IE. is dependent on IXIT - Ciphering activation time for DPCH Fadio bearer downlink ciphering activation time - Rec State indicator A1, A2, RRC State indicator A1, A2, RRC State indicator A1, A2, Constraint info Not Present Not Present Not Prese			stated below. Else this IF and the sub-IFs are
- message authentication code SS calculates the value of this IE. - RRC message ad wither to this IE. SS provides the value of this IE. from its imma counters. Integrity protection mode info SS provides the value of this IE. from its imma counters. Ciphering mode command SS and the sub IEs as stated below. Else, this IE is entitled. - Ciphering addiction inter for DPCH Search with the supported ciphering algorithms - Ciphering activation time for DPCH Start - Radio bearer downlink ciphering activation time into Start - Radio bearer downlink ciphering activation time into Start - Rec State indicator A1, A2, A3, A4 RRC State indicator A1, A2, A4 Chi information info Not Present URA Identity Not Present - RAB information to setup A1 - RAB information to setup A1 - RAB information for setup The LC - RAB information for setup Not Present <			omitted.
- RRC message sequence number message and writes to this IE. - RRC message sequence number message and writes to this IE. Integrity protection mode info Sprovides the value of this IE. from its internal counter. Ciphering mode info The presence of this IE. is dependent on IXIT - Ciphering mode command - Ciphering algorithm - Ciphering algorithm - Ciphering algorithms - Real bearer downlink ciphering activation time into - Ciphering algorithms - Real bearer downlink ciphering activation time into - Ciphering algorithms - Real information time - Ciphering algorithms - Ciphering algorithm - Ciphering algorithms - Ciphering algorithm - Ciphering algorithms - Real information time - Ciphering algorithms - Real information to setup - A1, A2, A1 - RAB information to setup - A1 <t< td=""><td>- message authentication code</td><td></td><td>SS calculates the value of MAC-I for this</td></t<>	- message authentication code		SS calculates the value of MAC-I for this
- RRC message sequence number SS provides the value of this IE, from its internal counter. Integrity protection mode info Not Present Ciphering mode command Statements in TS 34, 123-2. - Ciphering adde command Statements in TS 34, 123-2. - Ciphering adde command Statements in TS 34, 123-2. - Ciphering adde command Statements in TS 34, 123-2. - Ciphering adde command State indicate to be active, this IE present with the values of the subported ciphering algorithms - Rabit bearer downlink ciphering activation time indo Start - Rabit bearer downlink ciphering activation time indo Start New C-RNTI Not Present RRC State indicator A1, A2, CELL_DCH RRC State indicator A1, A2, CELL_DCH RAB information into Not Present URAi dentity Not Present - RAB information to setup A1 - RAB information setup A1 - RAB information for setup A1 - RAB identity CG domain - CHOICE Upink RLC mode TM RLC - RAB identity 10 - CHOICE Upink RLC mode TM RLC - Sigmentation indication TRUE <td></td> <td></td> <td>message and writes to this IE.</td>			message and writes to this IE.
Integrity protection mode info Ciphering mode info Ciphering mode info Ciphering activation time for DPCH - Ciphering adjorithm - Adjorithm - Ciphering ciphering adjorithm - RAB information to setup - RaB information to setup - RAB information to setup - Ric Indorshift - Cipcial channel identity - CircloCE RLC infor type - Unitary channel identity - Cipcice RLC site is is - Ciphering ciphering indicator - Number of duplink RLC focical channels in - Duplink RLC focical channel identity - Cipcice RLC site is is - Downlink RLC focical channel identity - Cipcice RLC informity - Dicher Ciphering adjorithmering - - Dicher Ciphering adjorithmering - - Dicher Ciphering adjorithmering - - Dicher Ciphering adjorithmering - - Dicher Ci	- RRC message sequence number		SS provides the value of this IE, from its
Integrity protection mode info Not Present Ciphering mode info The presence of this IE is dependent on IXIT statements in TS 34.12-2-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is center display to the set of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as the values of the sub IEs as stated below. Else, this IE is center display to the values of the sub IEs as the values of the sub IEs as stated below. Else, this IE is dependent on IXIT statements in TS 41.22. Rec State indicator A1, A2, A2, A2, A2, A2, A3, A4			internal counter.
L'priering mode into L'preting mode into Ciphering activation time for DPCH - Radio bearer downlink ciphering activation time into Activation time New U-RNTI New C-RNTI New C-RNTI CN information to setup - RAB information to setup - RAB information to setup - RAB information indication - Net C logical channel speption - Information indication - Number of uplink RLC mode - Information indication - Number of uplink RLC mode - Segmentation indication - Number of uplink RLC folgical channel iffy - CHOICE LD workink RLC folgical channel iffy - CHOICE RLC infort there - Number of uplink RLC folgical channel iffy - CHOICE RLC infort there - Number of uplink RLC folgical channel iffy - Downlink RLC folgical channel iffy - Downlink RLC folgical channel iffy - Dub CH Canchannel iffy - Dub CH Channel iffy - Dub Channel iffy - Dub CH Channel iffy - Dub CH Channel iffy - Dub CH Channel iffy - Dub CH Channel iffy -	Integrity protection mode info		Not Present
- Ciphering mode command - Ciphering adjoritm - Ciphering algoritm - Ciphering algorithm - Ciphering algorithm - Ciphering adjorithm - Ciphering adjorithm - Ciphering adjorithm - Ciphering adjorithm - Ciphering adjorithm - Rabi Dearer downlink ciphering activation time into Start - Rabi Dearer downlink ciphering activation time into Not Present - Rever CRNTI Not Present RRC State indicator A1, A2, A3, A4 RRC State indicator A5, A6 C Chi Iormation info Not Present URA identity Not Present - RAB information to setup A1 - CHOICE RLD info type To Present - CHOICE RLD info type RUC info - CHOICE RLD info type RUC info - CHOICE Lownlink RLC mode TM RLC - Tasping info Not Present - CHOICE Lownlink RLC mode TM RLC - Segmentation indicator Not Present<	Ciphering mode info		The presence of this IE is dependent on IXIT
- Ciphering mode command - Ciphering algorithm - Ciphering algorithm - Ciphering algorithm - RAB information to setup - Ciphering algor			indicated to be active, this IE present with the
- Ciphering adjorithm - Ciphering adjorithm - Radio bearer downlink ciphering activation time info - Ciphering adjorithms - Radio bearer downlink ciphering activation time info - Ciphering adjorithms - Reastain information time - Ciphering adjorithm New C-RNTI - All, A2, A3, A4 RC State indicator - A1, A2, A3, A4 Cignaling RB information to setup - Not Present - RAB information to setup - A1 - RAB information to setup - A1 - RAB information to setup - A1 - RAB information to setup - CHOICE Uplink RLC mode - RAB information to setup - CHOICE Uplink RLC mode - RB information to reach multiplexing option - CHOICE Uplink RLC mode - RB mapping info - Information for each multiplexing option - Informatino for each multiplexing option - RE - Segmenitati			values of the sub IFs as stated below. Fise
Ciphering adjorithm Ciphering adjorithm Ciphering adjorithm Ciphering activation time for DPCH Radio bearer downlink ciphering activation time info Activation time New U-RNTI New U-RNTI RRC State indicator Activation time Activation time Activation time RRC State indicator Activation time Activation time RRC State indicator Activation time Activation			this IE is omitted.
 Ciphering algorithm Ciphering activation time for DPCH Radio bearer downlink ciphering activation time info Activation time Activation time New C-RNTI RRC State indicator A1, A2, A4 RRC State indicator A1, A2, A4 CELL_DCH AS, A4 CELL_FACH UTRAN DRX cycle length coefficient CN information info URA identity Not Present Not Present	- Ciphering mode command		Start
Ciphering activation time for DPCH Radio bearer downlink ciphering activation time info Activation time Activation Acti Activation Activat	- Ciphering algorithm		Use one of the supported ciphering algorithms
- Radio bearer downlink ciphering activation time into Not Present Activation time (256-CFN-(CFN MOD 8 + 8))MOD 256 Not Present New U-RNTI Not Present New C-RNTI Not Present RRC State indicator A1, A2, A3, A4 RRC State indicator A1, A2, A3, A4 CN information info Not Present URAN DRX cycle length coefficient Not Present CN information info Not Present URA identity Not Present - RAB information to setup A1 - RAB information for setup A1 - RAB information to setup A1 - RAB information to setup C3 domain - RAB information to setup C3 domain - RAB information to setup 10 - RB information to setup 10 - RB information to setup RLC info - CHOICE Lpink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Logical channel indo TM RLC - Segmentation indication TRUE - CHOICE Logical channel indo TM RLC - Segmentation indication TRUE - CHOICE RLC is logical channel identity 1 - CHOICE Logical channel identity <t< td=""><td> Ciphering activation time for DPCH </td><td></td><td>(256+CFN-(CFN MOD 8 + 8))MOD 256</td></t<>	 Ciphering activation time for DPCH 		(256+CFN-(CFN MOD 8 + 8))MOD 256
info (256+CFN-(CFN MOD 8 + 8))MOD 256 New U-RNTI Not Present New C-RNTI Not Present RC State indicator A1, A2, A3, A4 RC State indicator A1, A2, A3, A4 IUTRAN DRX cycle length coefficient CN information info Not Present URA identity Not Present Signaling RB information to setup A1 - RAB info A1 - RAB information to setup CS domain - RAB information to setup 10 - RAB information to setup 10 - RAB information to setup 10 - CHOICE Pulplink RLC mode TM RLC - Transmission RLC discard Not Present - CHOICE Duplink RLC mode TM RLC - Segmentation indication TRUE - UDCICE Downink RLC logical channel sping indicator	 Radio bearer downlink ciphering activation time 		Not Present
Activation time (2054-CFN-CFN MDD 8 + 8)/MCD 256 New U-RNTI Not Present New U-RNTI Not Present RRC State indicator A1, A2, CELL_FACH UTRAN DRX cycle length coefficient CN information info Not Present UTRAN DRX cycle length coefficient Not Present CN information for setup A1 - RAB information for setup A1 - RAB information for setup A1 - RAB identity 0000 0001B - NAS Synchronization Indicator Sc domain - Ra B information to setup Not Present - RAB identity 0000 0001B - NAS Synchronization Indicator Sc domain - Ra identity 10 - PCP info RLC info - CHOICE LD ink RLC mode TM RLC - Transmission RLC discard TRUE - Segmentation indication TRUE - RLC logical channel mapping indicator Not Present - Number of uplink RLC mode TM RLC - Uplink transport channel type DCH - Uplink transport channel type DCH - Uplink transport channel type <td>Info</td> <td></td> <td></td>	Info		
New C-RNTI Not Present RRC State indicator A1, A2, A3, A4 CELL_DCH RRC State indicator A5, A6 CELL_FACH UTRAN DRX cycle length coefficient CN information info Not Present Not Present URA identity Not Present Not Present Signalling RB information to setup A1 Not Present - RAB info Not Present Not Present - RAB information for setup A1 Not Present - RAB information to setup A1 CS domain - RAB information to setup A1 CS domain - NAS Synchronization Indicator Not Present 20 seconds - Ra identity 10 Not Present 20 seconds - PCDP info - CHOICE LC info type TM RLC Not Present - CHOICE EUC infor tope TM RLC Not Present Not Present - CHOICE Downlink RLC mode TM RLC Not Present Not Present - CHOICE Downlink RLC mode TM RLC Not Present Not Present - UDIGE Uplink RLC logical channels Not Present Not Pr			(250+CFN-(CFN MOD 8 + 8))MOD 250
Identity A1, A2, A3, A4 CELL_DCH RRC State indicator A1, A2, A3, A4 CELL_DCH UTRAN DRX cycle length coefficient Not Present Not Present CN information info Not Present Not Present UTRA identity Not Present Not Present Signalling RB information to setup A1 CS domain - RAB info - A1 - RAB identity CS domain Not Present - RAB identity CS domain Not Present - RAB information to setup A1 CS domain - RAB identity CS domain Not Present - RAB information to setup A1 CS domain - RAB information to setup A1 CS domain - RB information to setup CS domain Not Present - RB information to setup 10 Not Present - RB information idication RLC info TCHOICE LUplink RLC mode - Transmission RLC discard Not Present TRUE - CHOICE Downlink RLC mode TM RLC TRUE - Rapping info Information for each multiplexing option Information for each multiplexing option - Information for each multiplexing option 1 DCH - Logical channel identity 1 In	New C-RNTI		Not Present
RRC State indicator A3, A4 RRC State indicator A5, A6 CELL_FACH UTRAN DRX cycle length coefficient CN information info URA identity Not Present Not Present Not Present Not Present RAB information for setup - RAB identity - RAB identity - Na Synchronization Indicator - Rab identity - Na Synchronization Indicator - Ra Information to setup - Raminformation to setup - Ra Information to setup - RB identity - RDCE Info - CHOICE RLC info type - CHOICE RLC info type - CHOICE RLC mode - Transmission RLC discard - Segmentation indication - RB mapping info - Information for each multiplexing option - RL logical channel mapping indicator - Number of duplink RLC logical channels - Uplink transport channel identity - Logical channel identity - Logical channel identity - Logical channel identity - Downlink RLC logical channels - Downlink RLC logical channels	RRC State indicator	A1. A2.	CELL DCH
RRC State indicator A5, A6 CELL_PACH UTRAN DRX cycle length coefficient Not Present Not Present CN information info Not Present Not Present URRA identity Not Present Not Present RAB information to setup A1 Not Present - RAB info 0000 0001B CS domain - RAB information to setup A1 CS domain - RAB information to setup A1 CS domain - RAB information to setup CS domain Not Present - RAB information to setup CS domain Not Present - RB identity 0000 0001B CS domain - RB identity 10 Not Present - RB identity 10 Not Present - CHOICE RLC info type RLC info TM RLC - CHOICE Downlink RLC mode TM RLC Not Present - Segmentation indication TRUE TWLE - CHOICE Downlink RLC logical channels 1 TWLE - Uprink transport channel type DCH 1 - Logical channel identity 1 1 - Logical channel identity 1 1 - CHOICE RLC isze list 1 1 - Uprink RLC Ogical channels 1 1		A3, A4	
UTRAN DRX cycle length coefficient Not Present CN information info Not Present URA identity Not Present Signalling RB information to setup A1 - RAB info A1 - RAB info 0000 0001B - RAB identity CS domain - RAB information to setup Not Present - T314 20 seconds - RB identity 10 - PDCP info Not Present - CHOICE RLC info type RLC info - CHOICE LUplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option Not Present - RLC logical channel mapping indicator Not Present - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - Mumber of downlink RLC logical c	RRC State indicator	A5, A6	CELL_FACH
CN information info Not Present URA identity Not Present RAB information for setup A1 - RAB info 0000 0001B - RAB information for setup A1 - RAB information for setup A1 - RAB information for setup CS domain - NAS Synchronization Indicator Not Present - Re-establishment timer - 1314 - RB identity 10 - RB identity 10 - PDCP info Not Present - CHOICE RLC info type RLC info - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard TM RLC - Segmentation indication TRUE - RB mapping info TM RLC - UDIrik RLC logical channel mapping infocator Not Present - Uplink transport channel type DCH - UL Transport channel identity 1 - Mac logical channel info 1 - Upornink RLC logical channel info 1 - UDORD infik transport channel info 1 - Mac logical channel info 1 - Downlink transport channel info 1	UTRAN DRX cycle length coefficient		Not Present
UKA Identity Not Present RAB information to setup A1 - RAB info A1 - RAB identity 0000 0001B - RAB information indicator CS domain - RAB information to setup A1 - RAB information to setup CS domain - RAB information to setup Not Present - RAB information to setup Not Present - RB information to setup 10 - RB identity 10 - PDCP info Not Present - CHOICE RLC info type TM RLC - CHOICE Duplink RLC mode TM RLC - Transmission RLC discard TM RLC - Segmentation indication TM RLC - Segmentation indication TM RLC - RB mapping info TM RLC - UL Transport channel identity T - Logical channel identity T - UDICE RLC size list All - Wumber of downlink RLC logical channels 1 - Upornlink RLC logical channel info 1 - Downlink RLC logical channel info 1	CN information info		Not Present
Importanting Total Information for setup A1 RAB information for setup A1 - RAB information for setup A1 - RAB information for setup CS domain - RAB information identity 0000 0001B - RAB information identity CS domain - Re-stablishment timer - - Tarsmission to setup 10 - RB information to setup 10 - RB information to setup 10 - RB identity 10 - PDCP info Not Present - CHOICE RLC info type RLC info - CHOICE Downlink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - Information for each multiplexing option RL formation for each multiplexing option - Information for each multiplexing option 1 - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC lo	URA Identity Signalling RB information to setup		Not Present
- RAB info -RAB info - RAB identity 0000 0001B - RAB identity 0000 0001B - NAS Synchronization Indicator Not Present - Re-establishment timer 20 seconds - RB information to setup 10 - RB information to setup 10 - RB identity 10 - PDCP info Not Present - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel identity 1 - UL Transport channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink transport channel identity 7 - CHOICE RLC size list 1 - Downlink transport channel identity 1	RAB information for setup	A1	Not i lesent
- RAB identity 0000 0001B - CN domain identity CS domain - NAS Synchronization Indicator Not Present - Re-establishment timer 20 seconds - T314 20 seconds - RB information to setup 10 - RDCP info Not Present - CHOICE RLC info type RLC info - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - RB mapping info Information for each multiplexing option - RLC logical channel mapping indicator Not Present - Uplink transport channel type DCH - Uplick transport channel identity 1 - CHOICE RLC size list All - Mac logical channel priority 1 - Downlink RLC logical channels 1 - Number of downlink RLC logical channels 1 - MAC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 6	- RAB info		
- CN domain identity CS domain - NAS Synchronization Indicator Not Present - Re-establishment timer 20 seconds - T314 20 seconds - RB information to setup 10 - RB information to setup Not Present - RDCP info Not Present - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - Information for each multiplexing option Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel priority 1 - Downlink RLC logical channels 1 - MAC logical channel priority 1 - Downlink RLC logical channel identity 7 - Downlink RLC logical channel identity 1 - Downlink RLC logical channel identity 1 <t< td=""><td>- RAB identity</td><td></td><td>0000 0001B</td></t<>	- RAB identity		0000 0001B
- NAS Synchronization Indicator Not Present - Re-establishment timer 20 seconds - T314 10 - RB information to setup 10 - RB identity 10 - PDCP info RLC info - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - Logical channel mapping indicator Not Present - Number of uplink RLC logical channels 1 - UL Transport channel type DCH - UL Transport channel identity 1 - CHOICE RLC size list All - Mumber of downlink RLC logical channels 1 - Mumber of downlink RLC logical channels 1 - Downlink transport channel type DCH - Dumlink rLC logical channel identity 1 - Downlink RLC logical channel identity 1 - Downlink RLC logical channel identity 6 - Downlink transport channel type DCH	- CN domain identity		CS domain
- Re-establishment timer 20 seconds - T314 20 seconds - RB information to setup 10 - RB identity 10 - PDCP info Not Present - CHOICE RLC info type RLC info - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - RB mapping info Information for each multiplexing option - Information for each multiplexing option Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 1 - Downlink transport channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 6 - Downlink Rtransport channel identity 6 <td>- NAS Synchronization Indicator</td> <td></td> <td>Not Present</td>	- NAS Synchronization Indicator		Not Present
- 1314 20 seconds - RB information to setup 10 - RB identity 10 - PDCP info Not Present - CHOICE RLC info type TM RLC - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option RLC logical channel mapping indicator - Number of uplink RLC logical channels 1 - Uplink transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - Number of downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Downlink RLC logical channel info 1 - Downlink RLC logical channel info 1 - Downlink RLC logical channel identity 6 - Downlink RLC logical channel identity 6 - Downlink RLC hogical channel identity 6 - Logical channel identity 7 -	- Re-establishment timer		
- Rb identity10- PDCP info10- CHOICE RLC info typeRLC info- CHOICE Uplink RLC modeTM RLC- Transmission RLC discardNot Present- Segmentation indicationTRUE- CHOICE Downlink RLC modeTM RLC- Segmentation indicationTRUE- CHOICE Downlink RLC modeTM RLC- Segmentation indicationTRUE- CHOICE Downlink RLC modeTM RLC- Segmentation indicationTRUE- RB mapping infoTRUE- Information for each multiplexing optionNot Present- RLC logical channel mapping indicatorNot Present- Number of uplink RLC logical channels1- Uplink transport channel identity1- Logical channel identity7- CHOICE RLC size listAll- MAC logical channel priority1- Downlink RLC logical channel infoDCH- Number of downlink RLC logical channels1- Downlink transport channel identity6- Du DCH Transport channel identity7- RAB information for setupA2	- 1314 - PR information to setun		20 seconds
PDCP infoNot Present- CHOICE RLC info typeRLC info- CHOICE Uplink RLC modeTM RLC- Transmission RLC discardNot Present- Segmentation indicationTRUE- CHOICE Downlink RLC modeTM RLC- Segmentation indicationTRUE- CHOICE Downlink RLC modeTM RLC- Segmentation indicationTRUE- RB mapping infoTRUE- Information for each multiplexing optionNot Present- RLC logical channel mapping indicatorNot Present- Number of uplink RLC logical channels1- Uplink transport channel identity1- Logical channel identity7- CHOICE RLC size listAll- MAC logical channel info1- Number of downlink RLC logical channels1- Downlink transport channel infoDCH- Number of downlink RLC logical channels1- Downlink transport channel info1- Number of downlink RLC logical channels1- Downlink transport channel info7- RAB information for setupA2- RAB information for setupA2	- RB identity		10
- CHOICE RLC info type RLC info - CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TM RLC - CHOICE Downlink RLC mode TM RLC - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - CHOICE Logical channel mapping info TRUE - Information for each multiplexing option Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channels 1 - Number of downlink RLC logical channels 1 - Downlink transport channel info 1 - Downlink transport channel identity 7 - Downlink transport channel identity 6 - Downlink transport channel identity 7 - Downlink transport channel identity 7 - Downlink transport channel identity 6 - Logical channel identity	- PDCP info		Not Present
- CHOICE Uplink RLC mode TM RLC - Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel type DCH - UL Transport channel type DCH - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Downlink transport channel identity 6 - Duch Transport channel identity 6 - Logical channel identity 7 - Logical channel identity 7 - Duch Transport channel identity 6 - Logical channel identity 7 - Logical channel identity </td <td>- CHOICE RLC info type</td> <td></td> <td>RLC info</td>	- CHOICE RLC info type		RLC info
- Transmission RLC discard Not Present - Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option Rule - Number of uplink RLC logical channel solution 1 - Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel identity 1 - Logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Downlink RLC logical channel info 1 - Du DCH Transport channel identity 6 - DL DCH Transport channel identity 7 - RAB information for setup A2	- CHOICE Uplink RLC mode		TM RLC
- Segmentation indication TRUE - CHOICE Downlink RLC mode TM RLC - Segmentation indication TRUE - RB mapping info TRUE - Information for each multiplexing option TRUE - RLC logical channel mapping indicator Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel type DCH - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 1 - Downlink transport channel info 1 - Downlink transport channel identity 6 - DL DCH Transport channel identity 6 - DL DCH Transport channel identity 7 - RAB information for setup A2	- Transmission RLC discard		Not Present
- OFFORCE DOWNLINK REC mode IM REC - Segmentation indication TRUE - RB mapping info ITRUE - Information for each multiplexing option Not Present - Number of uplink REC logical channels 1 - Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 1 - Downlink RLC logical channel info DCH - Number of downlink RLC logical channels 1 - Downlink transport channel identity 6 - DL DCH Transport channel identity 6 - Digical channel identity 7 - AB information for setup A2	- Segmentation indication		
- RB mapping info - Information for each multiplexing option - RLC logical channel mapping indicator Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel identity DCH - UL Transport channel identity 1 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channels 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Number of downlink RLC logical channels 1 - Downlink RLC logical channel info 0 - Number of downlink RLC logical channels 1 - Downlink transport channel identity 6 - DL DCH Transport channel identity 7 - AB information for setup A2	- UNULE DOWNIINK KLU MODE		
 Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Number of downlink RLC logical channels Downlink transport channel identity Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity All All MAC logical channel info Number of downlink RLC logical channels DCH DCH Transport channel identity All All<td>- Segmentation indication</td><td></td><td></td>	- Segmentation indication		
- RLC logical channel mapping indicator Not Present - Number of uplink RLC logical channels 1 - Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2 - RAB info A2	- Information for each multiplexing option		
- Number of uplink RLC logical channels 1 - Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- RLC logical channel mapping indicator		Not Present
- Uplink transport channel type DCH - UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- Number of uplink RLC logical channels		1
- UL Transport channel identity 1 - Logical channel identity 7 - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- Uplink transport channel type		DCH
- Logical channel identity / - CHOICE RLC size list All - MAC logical channel priority 1 - Downlink RLC logical channel info 1 - Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- UL Transport channel identity		1
- MAC logical channel priority - Downlink RLC logical channel info - Number of downlink RLC logical channels - Downlink transport channel type - DL DCH Transport channel identity - Logical channel identity - RAB information for setup - RAB info			/ All
- Downlink RLC logical channel info - Number of downlink RLC logical channels - Downlink transport channel type - DL DCH Transport channel identity - Logical channel identity - Logical channel identity - RAB information for setup - RAB info	- MAC logical channel priority		1
- Number of downlink RLC logical channels 1 - Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- Downlink RLC logical channel info		'
- Downlink transport channel type DCH - DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2	- Number of downlink RLC logical channels		1
- DL DCH Transport channel identity 6 - Logical channel identity 7 RAB information for setup A2 - RAB info A2	- Downlink transport channel type		DCH
- Logical channel identity 7 RAB information for setup A2 - RAB info	- DL DCH Transport channel identity		6
- RAB info	- Logical channel identity	A.2	1
	- RAB info	~~	

- RAB identity	0000 0001B
- CN domain identity	CS domain
- NAS Synchronisation Indicator	Not Present
	NOLTIESEN
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
DD identity	10
- RB Identity	10
- PDCP info	Not Present
- CHOICE RI C info type	RI C info
- CHOICE Uplink RLC mode	IMIRLO
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
CHOICE Downlink PLC mode	TMPLC
- Segmentation indication	IRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- LIL Transport channel identity	1
- Logical channel identity	
- CHOICE RLC size list	All
- MAC logical channel priority	1
Downlink PLC logical channel info	
- Number of RLC logical channels	1
 Downlink transport channel type 	DCH
- DL DCH Transport channel identity	6
	7
- Logical channel identity	1
- RB information to setup	
- RB identity	11
DDCD info	Not Brocont
	Not Flesent
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	TM RLC
- Transmission PLC discard	Not Present
- Segmentation indication	IRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
DD menning info	INOL
- RB mapping into	
 Information for each multiplexing option 	
- Number of RLC logical channels	1
	DOIT
- UL Transport channel identity	2
- Logical channel identity	8
- CHOICE RI C size list	ΔΙΙ
- MAC logical channel priority	1
- Downlink RLC logical channel info	
- Number of RLC logical channels	1
- DL DCH Transport channel identity	1
- Logical channel identity	8
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2
	KDps)
- RB identity	12
- PDCP info	Not Present
	PL C info
- CHOICE Uplink RLC mode	IMRLC
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiploying option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- III Transport channel identity	3
- Logical channel identity	9
- CHOICE RLC size list	All
- MAC logical channel priority	1
Downlink DLC logical shares linfo	

 Number of RLC logical channels 		1
- Downlink transport channel type		DCH
DL DCH Transport channel identity		0
		0
		9
RAB information for setup	A3, A4	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		PS domain
NAO Ormali indentity		Not Descent
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		
- T314		20 seconds
- RB information to setup		
PD identity		20
		20
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		AM RLC
- Transmission RI C discard		
SDU discord mode		Max DAT retransmissions
- MAX_DAT		4
- Timer_MRW		100
- MaxMRW		4
- Transmission window size		8
		500
		500
- Max_RST		4
- Polling info		
- Timer poll prohibit		200
Timor_poll_promote		200
		200
- Poll_SDU		1
 Last transmission PDU poll 		TRUE
- Last retransmission PDU poll		TRUE
- Poll Windows		99
CHOICE Downlink DI C mode		
- In-sequence delivery		IRUE
 Receiving window size 		8
- Downlink RLC status info		
- Timer status prohibit		200
		200
- Timer_EPC		200
- Missing PDU indicator		TRUE
- RB mapping info		
- Information for each multiplexing option		
PLC logical channel menning indicator		Not Present
		Not Fresent
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		1
- Logical channel identity		7
		All
 MAC logical channel priority 		1
 Downlink RLC logical channel info 		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		DCH
DL DCH Transport channel identity		
- DL DCH Transport channel identity		0
- Logical channel identity		7
RAB information for setup	A5, A6	
- RAB info		(AM DTCH for PS domain)
- RAB identity		0000 00018
- CN domain identity		PS domain
 NAS Synchronization Indicator 		Not Present
 Re-establishment timer 		
- T314		20 seconds
PR information to actum		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Unlink RI C mode		AMRIC
- CHOICE SDU discard mode		Max DAT retransmissions
- MAX_DAT		4
- Timer_MRW		100
	•	

- MaxMRW		4
- Transmission window size		8
Timer DCT		500
		500
- Max_RST		4
- Polling info		
- Timer poll prohibit		200
- Timer poll		200
		1
- Last transmission PDU poli		IRUE
 Last retransmission PDU poll 		TRUE
- Poll Windows		99
- CHOICE Downlink RI C mode		AMRIC
		TDUE
- Receiving window size		8
- Downlink RLC status info		
 Timer_status_prohibit 		200
- Timer EPC		200
- Missing PDI Lindicator		TRUE
		INOL
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
 Number of uplink RLC logical channels 		1
- Unlink transport channel type		RACH
- Logical channel identity		7
		/ Exercited
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Set
- MAC logical channel priority		6
Downlink PLC logical channel info		°
- DOWININK NEC IOgical channel into		
- Number of downlink RLC logical channels		
 Downlink transport channel type 		FACH/PCH
 Logical channel identity 		6
RB information to be affected	A1, A2,	(UM DCCH for RRC)
	· · · , · · — ,	(
	Δ3 Δ4	
DD identity	A3, A4	1
- RB identity	A3, A4	1
- RB identity - RB mapping info	A3, A4	1
- RB identity - RB mapping info - Information for each multiplexing option	A3, A4	1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator 	A3, A4	1 Not Present
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of unlink RLC logical channels 	A3, A4	1 Not Present
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels 	A3, A4	1 Not Present 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type 	A3, A4	1 Not Present 1 DCH
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity 	A3, A4	1 Not Present 1 DCH 5
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity 	A3, A4	1 Not Present 1 DCH 5 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list 	A3, A4	1 Not Present 1 DCH 5 1 All
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority 	A3, A4	1 Not Present 1 DCH 5 1 All 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority 	A3, A4	1 Not Present 1 DCH 5 1 All 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info 	A3, A4	1 Not Present 1 DCH 5 1 All 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels 	A3, A4	1 Not Present 1 DCH 5 1 AII 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type 	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity 	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity 	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DCH Transport channel identity Logical channel identity 	A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 1 DCH 10 1 (AM DCCH for RRC)
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels DCH Transport channel type DL DCH Transport channel identity Logical channel identity 	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 1 DCH 1 (AM DCCH for RRC)
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC)
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Downlink RLC logical channel type DL DCH Transport channel identity Logical channel identity 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 10 1 (AM DCCH for RRC) 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB mapping info Information for each multiplexing option 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 10 1 (AM DCCH for RRC) 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB mapping info Information for each multiplexing option RI C logical channel mapping indicator 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB mapping info Information for each multiplexing option RLC logical channel mapping indicator 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB identity RB identity RLC logical channel mapping indicator Number of uplink RLC logical channels 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB identity RLC logical channel mapping indicator Number of uplink RLC logical channels UCH Transport channel identity Logical channel identity Logical channel identity UDCH Transport channel identity Logical channel identity RB information to be affected RB identity RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel type UL Transport channel type 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 3
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels ULTransport channel mapping indicator ULTransport channel mapping indicator Uplink transport channel type UL Transport channel mapping indicator Uplink transport channel type UL Transport channel mapping indicator 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity B information to be affected RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels UL Transport channel mapping indicator UL Transport channel mapping indicator UL Transport channel mapping indicator UL Transport channel identity CHOICE RLC size list 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 All
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels identity Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity RB information to be affected RB identity RB identity RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size ist Uplink transport channel identity Clogical channel identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority 	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 Not Present 1 2 All 1 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity Clock a channel identity 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 Not Present 1 DCH 5 2 All 2 All 2
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity Logical channel identity 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 All 4 1 1 1 1 1 1 1 1 1 1 1 1 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity Logical channel identity RB information to be affected RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel mapping indicator RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel type UL Transport channel mapping indicator Number of uplink RLC logical channels Uplink transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 All 1 1 1 1 1 1 1 1 1 1 1 1 1
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity Logical channel identity RB information to be affected RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel mapping indicator RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel type UL Transport channel mapping indicator Number of uplink RLC logical channels Uplink transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink RLC logical channel info Number of downlink RLC logical channels Downlink RLC logical channel info 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 1 DCH 1 1 1 1 1 1 1 1 1 10 1 10 1 10 1 DCH 5 2 All 2 All 2 1 DCH 5 2 All 2 1 DCH
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity Logical channel identity Res identity RB information to be affected RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Downlink transport channel type DL DCH Transport channel type 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 Not Present 1 DCH 5 2 All 2 1 DCH 5 2 All 2 1 DCH 5 2 All 2 1 DCH 10
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity Downlink transport channel type DL DCH Transport channel identity Logical channel identity Clogical channel identity RB information to be affected RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Clogical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel identity Clogical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Downlink RLC logical channels Downlink RLC logical channels Downlink RLC logical channels Downlink RLC logical channel info Number of downlink RLC logical channels Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel priority Downlink transport channel identity Logical channel priority Downlink RLC logical channel identity Logical channel priority 	A3, A4 A1, A2, A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 All 2 Not Present 1 DCH 5 2 All 2 Not Present 1 DCH 5 2 All 2 Not Present 1 DCH 5 2 All 2 All 1 DCH 10 1 DCH 10 1 DCH 10 1 DCH 10 2 Not Present 1 DCH 5 2 All 2 All 2 All 1 DCH 10 1 DCH 10 2 All 1 DCH 10 1 DCH 10 2 All 1 DCH 10 1 DCH 10 1 DCH 10 2 All 1 DCH 10 1 DCH 10 1 DCH 10 2 All All
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Downlink RLC logical channels Downlink transport channel identity Logical channel priority Downlink transport channel type DL DCH Transport channel identity Logical channel identity Course of downlink RLC logical channels Downlink transport channel identity Logical channel identity RB information to be affected RB information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Clogical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels info Number of downlink RLC logical channels Downlink RLC logical channel info Number of downlink RLC logical channels Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity Downlink RLC logical channel identity Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity Downlink transport channel identity Downlink transport channel identity Downlink transport channel ident	A3, A4	1 Not Present 1 DCH 5 1 All 1 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 Not Present 1 DCH 5 2 All 2 1 DCH 5 2 All 2 1 DCH 3 2 1 DCH 3 2 1 DCH 10 2 (AM DCCH for NAS_ DT High priority)
 RB identity RB mapping info Information for each multiplexing option RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channel identity Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel type DL DCH Transport channel identity Logical channel identity UCHOICE RLC size list MAC logical channel priority Downlink transport channel info Number of downlink RLC logical channels Downlink transport channel identity Logical channel identity RB information to be affected RB identity RLC logical channel mapping indicator Number of uplink RLC logical channels Uplink transport channel type UL Transport channel type UL Transport channel identity Logical channel identity CHOICE RLC size list MAC logical channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels Uplink transport channel identity CHOICE RLC size list MAC logical channel priority Downlink RLC logical channels UDIT ransport channel identity Logical channel priority Downlink RLC logical channel info Number of downlink RLC logical channels Downlink transport channel identity Downlink t	A3, A4 A1, A2, A3, A4 A1, A2,	1 Not Present 1 DCH 5 1 All 1 DCH 10 1 (AM DCCH for RRC) 2 Not Present 1 DCH 5 2 Not Present 1 DCH 5 2 All 2 1 DCH 5 2 All 2 (AM DCCH for NAS_DT High priority)

Release 4

- PR identity	1	3
- IND Identity PR manning info		5
- IND mapping into		
- Information for each multiplexing option		Net Present
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
 UL Transport channel identity 		5
 Logical channel identity 		3
- CHOICE RLC size list		All
- MAC logical channel priority		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		3
PB information to be affected	A1 A2	(AM DCCH for NAS_DT Low priority)
ND IIIOIIIalion to be allected	$A_1, A_2,$	(AW DECITION NAS_DT Low phoney)
DR identity	A3, A4	
		4
- RB mapping info		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		5
- Logical channel identity		4
- CHOICE RLC size list		All
- MAC logical channel priority		4
- Downlink RI C logical channel info		
- Number of downlink RI C logical channels		1
- Downlink transport channel type		рсн
- DL DCH Transport channel identity		10
		10
- Logical chainer loe finated		
RD Information to be affected	A5, A6	
- RB Identity		
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		RACH
 Logical channel identity 		1
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Set
- MAC logical channel priority		2
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		1
RB information to be affected	A5 A6	
PR identity	73, 70	
- ND Identity		2
- RD Mapping Mil		
- Information for each multiplexing option		Net Deserve
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		
 Uplink transport channel type 		RACH
- Logical channel identity		2
- CHOICE RLC size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Set
 MAC logical channel priority 		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		2
RB information to be affected	A5. A6	(AM DCCH for NAS DT High priority)
- RB identity	,	3
	1	-

- RB mapping info - Information for each multiplexing option

- PLC logical channel manning indicator		Not Present
		NOLFIESEIIL
 Number of uplink RLC logical channels 		1
Liplink transport channel type		
- Opinik transport channel type		RACIT
 Logical channel identity 		3
- CHOICE RI C size list		Explicit
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Sot
		Uel .
- MAC logical channel priority		4
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		
- Logical channel identity		3
RB information to be affected	A5 A6	(AM DCCH for NAS_DT Low priority)
	710, 710	
- RB identity		4
- RB manning info		
- Information for each multiplexing option		
- RLC logical channel manning indicator		Not Present
		Not i resent
- Number of uplink RLC logical channels		1
- Unlink transport channel type		RACH
- Logical channel identity		4
- CHOICE RI C size list		Explicit
- RLC size index		Reference to 1534.108 clause 6 Parameter
		Set
- MAC logical channel priority		5
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		FACH/PCH
- Logical channel identity		4
RB information to be affected	A5. A6	(TM BCCH for RRC)
PP identity	-, -	C C
- RD Identity		0
- RB mapping info		
- Information for each multiplexing option		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		
- Logical channel identity		5
- Downlink RI C logical channel info		Not Present
RB information to be affected	A5 or A6	(IM PCCH for RRC)
- RB identity		7
DD i i i		•
- RB mapping into		
 Information for each multiplexing option 		
- Number of downlink RLC logical channels		1
 Downlink transport channel type 		FACH/PCH
- Logical channel identity		I
 Downlink RLC logical channel info 		Not Present
Downlink counter synchronisation info		Not Present
	A.4. A.0.1.5	
UL I ransport channel information for all transport	A1, A2,A3,	
channels	A4	
		Not Procent
- CHOICE mode		עטו
- Individual UL CCTrCH information		
- 160310		
 Shared Channel Indicator 		FALSE
		Newsel
- CHOICE TECT signalling		INORMAI
- TFCI Field 1 information		
		Complete
- UNULE IFUS representation		Complete
 TFCS complete reconfigure information 		
CHOICE CTEC Size		Poter to TS24 108 clause 6
		Nelei 10 1334.100 Glause 0.
- CIFC information		Reter to 1S34.108 clause 6 Parameter Set
- TEC subset		
	1	Allowed to a set former (11 11 11 11 11
- CHOICE Subset representation		
Allowed Transport Format combination list		Allowed transport format combination list
		Refer to TS34.108 clause 6 Parameter Set
- Allowed Transport Format combination list	A5 A6	Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport	A5, A6	Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels	A5, A6	Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport channels - TFC subset	A5, A6	(This IE is repeated for TFC number.)
UL Transport channel information for all transport channels - TFC subset - Allowed Transport Format combination	A5, A6	(This IE is repeated for TFC number.) 0 to MaxTFCvalue-1 (MaxTFCValue is refer to
UL Transport channel information for all transport channels - TFC subset - Allowed Transport Format combination	A5, A6	(This IE is repeated for TFC number.) 0 to MaxTFCvalue-1 (MaxTFCValue is refer to TS34.108 clause 6 Parameter Set.)
UL Transport channel information for all transport channels - TFC subset - Allowed Transport Format combination	A5, A6	(This IE is repeated for TFC number.) 0 to MaxTFCvalue-1 (MaxTFCValue is refer to TS34.108 clause 6 Parameter Set.)

- CHOICE TFCI signalling		Normal
- IFCI Field 1 Information		
- TECS complete reconfigure information		
		Number of used bits must be enough to cover
		all combinations of CTEC from clauses 6
		Refer to TS34 108 clause 6 Parameter Set
- CTEC information		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		Not Present
Deleted UL TrCH information	A4	
- Uplink transport channel type		DCH
- Transport channel identity		15
Deleted UL TrCH information	A5	
 Uplink transport channel type 		DCH
 UL Transport channel identity 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		5
Added or Reconfigured UL TrCH information	A1, A2,	
	A3, A4	
 Uplink transport channel type 		DCH
 UL Transport channel identity 		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to 1S34.108 clause 6 Parameter
Number of TDe and TTU List		Set (This IF is repeated for TFI number)
- Number of TBS and TTT List		(This IE is repeated for TFT number.)
- Halishiission Time Interval		Not Fleselit Potoropoo to TS24 108 clauso 6 Parameter
- Number of Transport blocks		Sat
- CHOICE Logical Channel list		
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter
51 5		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
 Rate matching attribute 		Reference to TS34.108 clause 6 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
Added or Reconfigured UL TrCH information	A1, A2,	If TrCH reconfiguration is executed then this is
	A3, A4	needed (e.g. The rate of SRB for DCCH is
		changed.).
- Uplink transport channel type		
- UL Transport Channel Identity		σ
- IFS CHOICE Transport shannal type		Dedicated transport abappala
- Dynamic Transport format information		(This IE is repeated for TEL number)
- BLC Size		Reference to TS34 108 clause 6 Parameter
		Set
- Number of TBs and TTLL ist		(This IF is repeated for TFI number)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter
·		Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
 Transmission time interval 		Reference to TS34.108 clause 6 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to 1534.108 clause 6 Parameter
Data matching attails its		Set
- Rale matching allibute		Sot
- CRC size		Reference to TS34 108 clause 6 Parameter

		Set
Added or Reconfigured UL TrCH information	A2	
 Uplink transport channel type 		DCH
 UL Transport channel identity 		2
- TFS		
 CHOICE Transport channel type 		Dedicated transport channels
 Dynamic Transport format information 		(This IE is repeated for TFI number)
- RLC size		Reference to clause 6 Parameter Set
- Number of TBs and TTI List		Reference to clause 6 Parameter Set
- Transmission Time Interval		Not Present
- Number of transport blocks		Reference to clause 6 Parameter Set
- CHOICE Logical Channel List		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to clause 6 Parameter Set
- Type of channel couling		Reference to clause 6 Parameter Set
- Cooling Rale		Reference to clause 6 Parameter Set
		Reference to clause 6 Parameter Set
Added or Peconfigured LIL TrCH information	۸ <u>۵</u>	(This IE is needed for 12.2 kbps and 10.2
	AZ	
Liplink transport abannal type		
- Oplink transport channel identity		2
		(This IE is repeated for TEL number)
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		Dedicated transport channels
		Reference to clause 6 Parameter Set
- Number of TBs and TTLList		Reference to clause 6 Parameter Set
- Transmission Time Interval		Not Present
- Number of transport blocks		Reference to clause 6 Parameter Set
- CHOICE Logical Channel List		All
- Semi-static Transport Format information		,
- Transmission time interval		Reference to clause 6 Parameter Set
- Type of channel coding		Reference to clause 6 Parameter Set
- Coding Rate		Reference to clause 6 Parameter Set
- Rate matching attribute		Reference to clause 6 Parameter Set
- CRC size		Reference to clause 6 Parameter Set
DL Transport channel information common for all	A1,A2,A3,	
transport channel	A4	
- SCCPCH TFCS		Not Present
- CHOICE mode		TDD
 Individual DL CCTrCH information 		
- DL TFCS Identity		
- TFCS Id		1
- Shared Channel Indicator		FALSE
- CHOICE DL parameters		Independent
- DL DCH IFCS		(This IE is repeated for TFC number.)
- CHOICE IFCI signalling		Normal
- IFCI Field 1 information		Ormalata
- CHOICE IFCS representation		Complete
		Defer to TS24 109 cloups 6
- CHOICE CIFC Size		Refer to TS34.108 clause 6.
- CTFC Information	AF A6	Relei 10 1334.100 clause 0.
	A5, A6	
		(This IE is repeated for TEC number)
- CHOICE TECL signalling		(This is repeated for the humber.)
- TECL Field 1 information		Norman
- CHOICE TECS representation		Addition
- TECS addition information		Addition
- CHOICE CTEC Size		Number of bits used must be enough to cover
		all combinations of CTFC from clause 6.
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- Power offset information		Not Present
- CHOICE mode		TDD
 IndividualDL CCTrCH information 		Not Present
Deleted DL TrCH information	A4	
- Downlink transport channel type		DCH
- Transport channel identity		12

- Downlink transport channel type		DCH
Transport shannel identity		10
- Transport channel identity		13
- Downlink transport channel type		DCH
- Transport channel identity		14
	<u>۸</u> ۶	
	AS	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
De manoport channol donaty		DOLL
- Downlink transport channel type		DCH
 Transport channel identity 		10
Added or Reconfigured DL TrCH information	Δ1Δ2	
	//////	DOLL
- Downlink transport channel type		DCH
- DL Transport channel identity		6
CHOICE DL parameters		Samo as LII
- Uplink transport channel type		DCH
- UL TrCH identity		1
DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added an Descriftering d. DL TrOLLinformentian	A.4 A.Q	If TrOLL as a seficiency time is a second state of the set this is
Added or Reconfigured DL TrCH Information	A1, A2,	If I rCH reconfiguration is executed then this is
	A3. A4	needed(e.g. The rate of SRB for DCCH is
	,	abanged)
		changeu.).
 Downlink transport channel type 		DCH
- DL Transport channel identity		10
		Evolicit
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RI C Size		Reference to TS34 108 clause 6 Parameter
1120 0120		
		Set
 Number of TBs and TTI List 		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter
		Set
CHOICE Logical Channel list		
- CHOICE Logical Channel list		ALL
 Semi-static Transport Format information 		
- Transmission time interval		Reference to TS34 108 clause 6 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter
		Sot
		Sel
- Coding Rate		Reference to TS34.108 clause 6 Parameter
· ·		Set
- Rate matching attribute		Reference to 1534.108 clause 6 Parameter
		Set
CPC aiza		Poteronae to TS24 109 clause 6 Decemptor
- CRC SIZE		Reference to 1354.100 clause o Parameter
		Set
- DCH quality target		
BLEB Quality value		6.0
- DLER Quality value		-0.3
 Transparent mode signalling info 		Not Present
Added or Reconfigured DL TrCH information	Δ2	
	74	DOLL
- Downlink transport channel type		DCH
- Transport channel identity		7
- CHOICE DL parameters		SameAsIII
		SameASUL
- Uplink transport channel type		DCH
- UL TrCH identity		2
Added or Dependiquired DL TrCH information	A.2	This IF is pooded for 12.2 kbps and 10.2
Added of Reconfigured DL TICH Information	AZ	(This IE is needed for T2.2 kpps and T0.2
	1	корs)
- Downlink transport channel type		DCH
Transport channel identity	1	··
- mansport channel identity		0
- CHOICE DL parameters	1	SameAsUL
- Uplink transport channel type	1	DCH
		0
- UL TrCH identity	1	3
- DCH guality target		
- BLER Quality value	1	-63
	1	
 Transparent mode signalling info 		Not Present
Added or Reconfigured DL TrCH information	A3. A4	
	, , , , , , , , , , , , , , , , , , , ,	DCH
- Downlink transport channel type	1	DCU
 DL Transport channel identity 		6
		Explicit
- (H() (F) parameters		

- TFS		
CHOICE Transport abannal type		Dedicated transport channels
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter
		Set
- Number of TBs and TTLL ist		(This IE is repeated for TEL number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to 1534.108 clause 6 Parameter
		Set
 CHOICE Logical Channel list 		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS3/ 108 clause 6 Parameter
		Set
 Type of channel coding 		Reference to TS34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
Data matching attribute		Deference to TS24.400 eleves 6 Decemeter
- Rate matching attribute		Reference to 1534.106 clause 6 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
- DCH quality target		·
D ED Quality value		6.2
		-0.3
 I ransparent mode signalling info 		Not Present
Frequency info		
- CHOICE mode		חחד
		Poteroneo to TS24 108 clauso 6 Paramotor
		Set
Maximum allowed UL TX power		30dBm
CHOICE channel requirement	A1, A3, A4	Uplink DPCH info
- Unlink DPCH power control info		•
		חחד
- UL Target SIR		Reference to 1534.108 Parameter set.
- CHOICE UL OL PC info		Individually signalled
- CHOICE TDD option		1.28 Mcps
- TPC sten size		1 dB
Drimony CCDCH Ty Dowor		Not Brocont
- CHOICE mode		לטו
 Uplink Timing Advance Control 		Not Present
- UL CCTrCH List		
- TECS Id		1
Time infe		
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		infinite
 Common timeslot info 		
- 2 nd interleaving mode		Reference to TS34.108 clause 6 Parameter
		Set
		Oel.
- TFCI couling		Deference to TC2/ 100 eleves 6 Deremeter
		Reference to TS34.108 clause 6 Parameter
- Puncturing Limit		Reference to TS34.108 clause 6 Parameter set.
		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter
		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
- Repetition Period		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter
- Repetition Period		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter
- Repetition Period		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
- Repetition Period - Repetition Length		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter
- Repetition Period - Repetition Length		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
 Repetition Period Repetition Length Uplink DPCH timeslots and code 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set.
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes.
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode Midamble configuration 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default 16
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode Midamble configuration CHOICE TDD option 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default 16 1.28 Mcps TDD
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode Midamble configuration CHOICE TDD option Midamble configuration CHOICE TDD option Modulation 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default 16 1.28 Mcps TDD QPSK
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode Midamble configuration CHOICE TDD option Modulation SS-TPC Symbols 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default 16 1.28 Mcps TDD QPSK 1
 Repetition Period Repetition Length Uplink DPCH timeslots and code First individual timeslot info Timeslot number TFCI existence Midamble shift and burst type CHOICE TDD option Midamble allocation mode Midamble configuration CHOICE TDD option Modulation SS-TPC Symbols First timeslot channelisation codes 		Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. Reference to TS34.108 clause 6 Parameter set. The number of an uplink timeslot that has unassigned codes. TRUE 1.28 Mcps Default 16 1.28 Mcps TDD QPSK 1 Repeated (1,2) for each channelisation code

	1	
		assigned in the slot to meet the needs of
		TS34 108 clause 6 Parameter Set
Oberna disatian as da		(i/OF) where i denotes an uncertained and
- Unannelisation code		(I/SF) where I denotes an unassigned code
		matching the SF specified in TS34.108 clause
		6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends upon the
		number of resources specified in TS34.108
		section 6 and the number of slots in which they
		are being assigned
	4.0	Line being abeighed.
	AZ	
 Uplink DPCH power control info 		
- CHOICE mode		TDD
- III Target SIP		Reference to TS3/ 108 Parameter set
- CHOICE UL OL PC Info		Individually signalled
- CHOICE TDD option		1.28 Mcps
- TPC step size		1 dB
Brimany CCBCH Ty Bower		Not Drocont
- CHOICE mode		IDD
- Uplink Timing Advance Control		Not Present
- UIL CCTrCH List		
- Time info		
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		infinite
- Common timeslot into		
- 2 nd interleaving mode		Reference to TS34.108 section 6 Parameter
5		set
TECI opding		Beforence to TS24 109 contion 6 Decemptor
		Reference to 1534.106 Section 6 Parameter
		set.
- Puncturing Limit		Reference to TS34.108 section 6 Parameter
		sot
- Repetition Period		Reference to TS34.108 clause 6 Parameter
		set.
- Repetition Length		Reference to TS34 108 clause 6 Parameter
Ropoditori Eorigan		
		set.
- Uplink DPCH timeslots and code		
 First individual timeslot info 		The number of an uplink timeslot that has
		unassigned codes
Time callet in unable in		undssigned codes.
- IFCI existence		IKUE
 Midamble shift and burst type 		
- CHOICE TDD option		1.28 Mcns
Midamble allocation made		Default
- Midample allocation mode		Delaul
 Midamble configuration 		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		OPSK
		1
 First timeslot channelisation codes 		Repeated (1,2) for each channelisation code
		assigned in the slot to meet the needs of
		TS34,108 clause 6 Parameter Set
Chappeliastian and		(i/SE) whore i denotes on unassigned code
- Unannensation code		(NOF) where i denotes an unassigned code
		matching the SF specified in TS34.108 clause
		6 Parameter Set.
- CHOICE more timeslots		The presence of this IF depends upon the
		number of resources encoified in TS24 100
		number of resources specified III 1534.108
		section 6 and the number of slots in which they
		are being assigned.
CHOICE Mode		
Downlink information common for all radia links	A1 A0	
Downlink information common for all radio links	A1, A2,	
	A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
		Net Dresent
- CFIN-targetSFIN trame offset		NOT Present
 Downlink DPCH power control information 		
- CHOICE mode		
		1 dB
- CHOICE mode		עטו
CUOICE TOD antian	1	1.29 Mapa

	1	
- TSTD indicator		TRUE
Default DPCH offset value	A1 A2	0
Downlink information for each radio link list	AT, AZ,	
- Downlink information for each radio link	A3, A4	
- CHOICE mode		ססד
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		FALSE
- Downlink DPCH info for each RL		
- CHOICE mode		TDD
- DL CCTrCH List		
- TFCS ID		1
- Time info		
- Activation time		(256+CFN-(CFN mod 8 + 8))mod 256
- Duration		infinite
 Common timeslot info 		
- 2 nd interleaving mode		Reference to TS34.108
- TFCI coding		TRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter
		Set
- Repetition period		1
- Repetition length		Empty
 Downlink DPCH timeslots and codes 		
 Individual timeslot info 		
- Timeslot number		The number of a downlink timeslot that has
		unassigned codes.
- TFCI existence		TRUE
 Midamble shift and burst type 		
- CHOICE TDD option		1.28 Mcps
 Midamble allocation mode 		Default
 Midamble configuration 		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code
		that is being assigned and SF is specified in
		1S34.108 clause 6 Parameter Set.
- Last channelisation code		(J/SF) where J is the highest numbered code
D		that is being assigned in the slot.
- Bitmap		Bitmap of the codes that are being assigned in
		The slot.
- CHOICE more timesiots		the requirements of TS24 408 clause 6
		Decemptor Set could be mot by the codes that
		have been engiged in the first timeslet
		Not Present
- OL COTION TPO LISI		Not Present
Downlink information for each radio link list	<u> </u>	Not resent
Downlink information for each radio link	A3, A0	
- Choice mode		חסד
- Primary CCPCH info		
- CHOICE mode		חחד
- CHOICE TDD ontion		1 28 Mcps
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		TRUE
- Downlink DPCH info for each RL		Not Present
- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Flement	Condition	Value/remark
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
Integrity check into		statements in TS 34 123-2. If integrity
		protection is indicated to be active this IF is
		protection is indicated to be active, this in is
		stated below. Else, this IE and the sub IEs as
		amitted
magazara authentiaction and		CC as a value of MAC I for this
- message aumentication code		55 calculates the value of MAC-1 for this
DDC massage acquance number		C provideo the value of this IE.
- RRC message sequence number		ss provides the value of this IE, from its
Integrity protection mode info		Net Present
Cinharing made info		Not Present
Cipnering mode into		
		(250+CFIN-(CFIN WOD 6 + 6))WOD 250
		Not Present
		Not Present
RRC State indicator	A1, A2, A3,	CELL_DCH
	A4	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1, A2, A3	Not Present
RB information to reconfigure list	A4	
 RB information to reconfigure 		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- CHOICE RLC info type		Not Present
- RB mapping info		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		1
- CHOICE RLC size list		All
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
- Logical channel identity		1
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		- Not Present
- CHOICE RI C info type		Not Present
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RI C logical channels		5
- Unlink transport channel type		DCH
- UI Transport channel identity		1
- Logical channel identity		2
- CHOICE RI C size list		All
- MAC logical channel priority		2
- Downlink RI C logical channel info		-
- Number of downlink RI C logical channels		1
- Downlink transport channel type		рсн
- DL DCH Transport channel identity		10
- Logical channel identity		2
- RB stop/continue		And Present
- RB information to reconfigure		(AM DCCH for NAS DT High priority)

- RB identity		3
RB Idonary		
- PDCP into		Not Present
- CHOICE RI C info type		Not Present
DD manaina infa		
- RB mapping into		
 Information for each multiplexing option 		
PLC logical channel manning indicator		Not Procent
		NOL FIESEIIL
 Number of uplink RLC logical channels 		1
- Unlink transport channel type		DCH
- UL Transport channel identity		5
- Logical channel identity		3
- CHUICE RLC SIZE IIST		All
 MAC logical channel priority 		3
Number of downlink PLC logical channels		1
- NUMBER OF DOWNINK RECTORICAL CHAMPERS		
 Downlink transport channel type 		DCH
- DL DCH Transport channel identity		10
DE DOIT Hansport channel dentity		
- Logical channel identity		3
- RB stop/continue		Not Present
DD information to recenfigure		
- RB information to reconfigure		(AM DUCH for NAS_DT Low priority)
- RB identity		4
DDCD info		Not Present
		Not Fresent
- RLC info		Not Present
- RB manning info		
 Information for each multiplexing option 		
- RLC logical channel manning indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
LIL Tropport channel identity		E
- OL Transport channel identity		5
 Logical channel identity 		4
CHOICE BLC aiza liat		A II
		All
 MAC logical channel priority 		4
- Downlink RI C logical channel info		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
DI DOLL Transport channel identity		40
- DL DCH Transport channel identity		10
 Logical channel identity 		4
DD information to reconfigure		
- RD Information to reconfigure		(AWIDICH)
- RB identity		20
- PDCP info		Not Present
		Notriesent
- CHOICE RLC info type		Not Present
- RB manning info		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
Number of unlink DLC legical channels		1
- Number of uplink RLC logical channels		
 Uplink transport channel type 		DCH
- III Transport channel identity		1
- Logical channel identity		1
- CHOICE RI C size list		All
		A
- MAC logical channel priority		
 Downlink RLC logical channel info 		
Number of downlink PLC logical channels		1
- NUMBER OF DOWNING RECTORICAL CHAMPERS		
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
		0
- Logical channel identity		1
- RB stop/continue		Not Present
DD information to reconfigure list		
RB information to reconfigure list	A5,A6	
 RB information to reconfigure 		(UM DCCH for RRC)
PR identity		1
- PDCP info		Not Present
- CHOICE RI C info type		Not Present
- RB mapping into		
- Information for each multiplexing option		
		Not Droppet
- RLC logical channel mapping indicator		NUL Present
 Number of uplink RLC logical channels 		1
- Unlink transport channel type		РАСН
- opinik transport channel type		
 Logical channel identity 		1
- CHOICE RI C size list		Explicit list
- RLC size index		Reterence to IS34.108 clause 6 Parameter
		•

 MAC logical channel priority 	2
Downlink DLC logical channel info	
- Downlink RLC logical channel into	
 Number of downlink RLC logical channels 	1
Downlink transport channel type	EACH
- Logical channel identity	1
- RB stop/continue	Not Present
DD information to recenfigure	
- RB information to reconfigure	
- RB identity	2
- PDCP info	Not Present
	NOL FIESEIIL
- CHOICE RLC info type	Not Present
- RB manning info	
 Information for each multiplexing option 	
- RLC logical channel mapping indicator	Not Present
Number of unlink DLC legical channels	
- Number of uplink RLC logical channels	
 Uplink transport channel type 	RACH
Logical channel identity	2
- CHOICE RLC size list	Explicit List
- RI C size index	Reference to TS34 108 clause 6 Parameter
	Set
 MAC logical channel priority 	3
Downlink DLC logical channel info	
 Number of downlink RLC logical channels 	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB ston/continue	Not Present
DD information to recentioner	
- RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
DCD info	Not Dropont
- PDCP IIII0	Not Present
- CHOICE RLC info type	Not Present
- RB manning info	
 Information for each multiplexing option 	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	
 Uplink transport channel type 	RACH
Logical channel identity	2
	5
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34 108 clause 6 Parameter
	Set
- MAC logical channel priority	4
Downlink DLC logical channel info	
- Downlink RLC logical channel into	
 Number of downlink RLC logical channels 	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB stop/continue	Not Present
DD information to reconfigure	(AM DCCH for NAS, DT Low priority)
- RB mormation to reconligure	
- RB identity	4
- PDCP info	Not Present
	Not Tresent
- CHOICE RLC into type	Not Present
- RB mapping info	
Information for each multiplaying action	
- mormation for each multiplexing option	
 RLC logical channel mapping indicator 	Not Present
- Number of unlink RLC logical channels	
 Uplink transport channel type 	KACH
- Logical channel identity	4
	- Evolicit list
- UNULE KLU SIZE IIST	
- RLC size index	Reference to TS34.108 clause 6 Parameter
	Sot
 MAC logical channel priority 	5
- Downlink RI C logical channel info	
Number of downlink DLO lariast share-1-	
- Number of downlink RLC logical channels	
 Downlink transport channel type 	I FACH
	1 A
	4
- RB stop/continue	Not Present
- RB information to reconfigure	
- KB Identity	20
- PDCP info	Not Present
- CHOICE BLC info type	Not Present
DD monning info	

 Information for each multiplexing option 		
- RI C logical channel mapping indicator		Not Present
Number of uplink PLC logical channels		1
- Number of uplink RLC logical channels		
- Uplink transport channel type		RACH
 Logical channel identity 		7
- CHOICE RLC size list		Explicit list
- BLC size index		Reference to TS3/ 108 clause 6 Parameter
		Set
 MAC logical channel priority 		6
- Downlink RLC logical channel info		
Number of downlink PLC logical channels		1
- Downlink transport channel type		FACH
 Logical channel identity 		6
- RB stop/continue		Not Present
- RB information to reconfigure		(TM BCCH for RRC)
- RB Identity		5
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Liplink RI C mode		Not Present
- CHOICE DOWNINK RLC mode		TMIRLO
- Segmentation Indication		TRUE
- RB mapping info		
- Information for each multiplexing option		
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		FACH
- Logical channel identity		5
DD stan/sentinus		Not Droppint
- RD stop/continue		Not Present
- RB information to reconfigure		(TM PCCH for RRC)
- RB identity		7
- PDCP info		Not Present
		PLC info
- CHOICE Uplink RLC mode		Not Present
 CHOICE Downlink RLC mode 		TM RLC
- Segmentation Indication		TRUE
PR manning info		
- ND mapping into		
- Information for each multiplexing option		
 Downlink RLC logical channel info 		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		PCH
- Logical channel identity		
- RB stop/continue		Not Present
RB information to be affected	A1, A2, A3	(UM DCCH for RRC)
- RB identity		1
PB manning info		
- Information for each multiplexing option		
 RLC logical channel mapping indicator 		Not Present
 Number of uplink RLC logical channels 		1
- Unlink transport channel type		DCH
- Opinik transport channel identity		E
- OL transport channel identity		
- Logical channel identity		1
- CHOICE RLC size list		All
- MAC logical channel priority		1
Number of downlink PLC logical channels		1
		1 DOLL
- Downlink transport channel type		DCH
 DL DCH Transport channel identity 		10
 Logical channel identity 		1
RB information to be affected	Δ1 Δ2 Δ3	(AM DCCH for BBC)
PP identity	7(1,7)2,7(0	
		<u> </u>
- KB mapping into		
 Information for each multiplexing option 		
- RLC logical channel mapping indicator		Not Present
- Number of unlink RI C logical channels		1
- Number of uplink NEO logical challies		
- Oplink transport channel type		
- UL Transport channel identity		5
 Logical channel identity 	1	
- CHOICE RLC size list		All
- Downlink RLC logical channel info		
--	------------	-------------------------------------
 Number of downlink RLC logical channels 		10
 Downlink transport channel type 		DCH
- DL DCH Transport channel identity		1
- Logical channel identity		2
PR information to be affected		(AM DCCH for NAS, DT High priority)
	AT, AZ, AS	
- RB identity		3
- RB mapping info		
 Information for each multiplexing option 		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RI C logical channels		1
Liplink transport channel type		
- Opinik transport channel type		
- UL Transport channel identity		5
- Logical channel identity		3
- CHOICE RLC size list		All
 MAC logical channel priority 		3
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Number of downink REO logical chamlers		
- Downlink transport channel type		
- DL DCH Transport channel identity		10
- Logical channel identity		3
RB information to be affected	A1, A2, A3	(AM DCCH for NAS_DT Low priority)
- RB identity		
- RB manning info		
Information for each multiplaying option		
- momation for each multiplexing option		Net Descent
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		5
- Logical channel identity		4
- CHOICE RI C size list		ΔΙΙ
- IVIAC IOGICAI Charlinei phonty		4
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
 Downlink transport channel type 		DCH
 DL DCH Transport channel identity 		10
 Logical channel identity 		4
RB information to be affected	A1. A2. A3	(TM DTCH)
- RB identity	, , -	10
- RB manning info		10
Information for each multiplaying option		
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		1
- Logical channel identity		7
- CHOICE RI C size list		
- MAC logical chapped priority		1
		'
- DOWNIINK KLC logical channel into		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
- DL DCH Transport channel identity		6
- Logical channel identity		7
RB information to be affected	A2	(DTCH TM)
- RB identity		11
- PR manning info		
- IND IIIAPPING IIIO		
- momation for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		2
- Logical channel identity		8
- CHOICE RI C size list		All
- MAC logical channel priority		1
Downlink PLC logical channel info		'
- DOWININK KLO IOGICAL CHARNEL INTO		4
- Number of downlink RLC logical channels		
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		7

RB information to be affected A2 (This IE is needed for 12.2 kbps and 10.2 kbps) • RB identity .RB angling info • Information for each multiplexing option .RL (Signal channel mapping indicator • Number of uplink RLC logical channels .Uplink transport channel identity • Uplink transport channel identity 3 • Oblick RLC logical channel street 1 • Downlink RLC logical channel street 1 • Downlink RLC logical channel identity 1 • Downlink transport channel identity 1 • Ducht Transport channel information for all transport A1, A2, A3, • PRACH TFCS .CHOICE TFCS isgnalling • TFCS .CHOICE TFCS representation • CHOICE TFCS isgnalling .CHOICE TFCS isgnalling • TFCG addition information .Addition • TFCG isgnalling .CHOICE TFCS isgnalling • CHOICE TFCS isgnalling .CHOICE TFCS isgnalling </th <th>- Logical channel identity</th> <th></th> <th>8</th>	- Logical channel identity		8
- RB identity - Re identity - RB mapping info - Information for each multiplexing option - RLC logical channel mapping indicator - UL Transport channel logical channels - UL Transport channel identity - Development identity - Downink RLC logical channel identity - Development identity - Development RLC logical channel identity - Development identity - Downink RLC logical channel identity - Development identity - Downink RLC logical channel identity - Development identity - Development identity - All A2, A3, - Holdwall UL CTrCP information - TrCS - TFC S addition - TrCS - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS isgnalling - TFCS addition information - TFCS addition information - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS representation	RB information to be affected	A2	(This IE is needed for 12.2 kbps and 10.2
- RB identity 12 - RB identity 12 - RB identity 14 - RLC logical channel anging indicator Not Present - Uplink transport channel identity 3 - Object Cancel channel identity 3 - Object Cancel channel identity 3 - Object Cancel channel identity 3 - Downlink transport channel identity 1 - Downlink transport channel identity 8 - Duc Charanel information for all transport A1, A2, A3, A4 - PRACH TFCS - CHOICE TFC Signaling - Individual UL CCTCH information - FALSE - TFC S addition information - TFCS ID - TFC S addition information - CHOICE TFC Signaling - TFC S addition information - CHOICE TFC Signaling - TFC S addition information A5, A6 - TFC S addition information A6, A6 - TFC S addition information A6, A6 - CHOICE TFC Signaling - CHOICE TFC Signaling - TFC S addition information - CHOICE TFC Signaling - TFC S addition information - CHOICE TFC Signaling - TFC S addition information - CHOICE TFC Signaling			kbps)
- RB mapping info - Information for each multiplexing option - Uptink transport channel identity - Logical channel identity - Logical channel identity - Logical channel identity - Logical channel information for all transport - Number of downlink RLC logical channels - DurolCH Transport channel information for all transport - DurolCH Transport channel information - TFCS ID - Information - CHOICE TFC is grantling - CHOICE TFC is grantling - CHOICE TFC is grantling - CHOICE TFC Size - CHO	- RB identity		12
Information for each multiplexing option PLC logical channel mapping indicat Pumber of uplink RLC logical channel identity UL Transport channel identity CHOICE RLC size lis PACH TRCS CHOICE TrCS signaling CHOICE TFCS si	- RB mapping info		
PLC logical channel mapping indicator Number of uplink RLC logical channels (bentify Logical channel identify Logical channel identify Logical channel identify Logical channel identify Logical channel information for all transport Lougical channel information for all transport Lougical channel information for all transport Lougical channel information	- Information for each multiplexing option		
- Number of uplink RLC logical channel spe - UL Transport channel identity - CHOICE RLC size list - Molecular channel identity - Downlink transport channel ignetity - Downlink transport channel ignetity - Downlink transport channel identity - Downlink transport channel ignetity - Downlink transport channel ignetity - Downlink transport channel identity - DOWNLIP CTC H information - TFC S ID - TFC signalling - CHOICE TFC Size - CHOICE TFC Information - Uplink transport channel type - Transport channel type - Transport channel type - Transport channel type - Uplink transport channel type - Transport channel type - Dransport channel type - Dransport channel type - Transport channel type - Uplink transport channel type - Dransport channe	- PLC logical channel manning indicator		Not Present
 Upline to up in the organization in the second secon	- Number of unlink PLC logical channels		1
- Uptime transport channel dentity - Uptime transport channel identity - Uptime transport channel identity - Uptime transport channel identity - CHOICE RLC Size I channel information - CHOICE TFCS Signalling - TFCS addition information - TFCS addition information - CHOICE TFCS Size - CTFC information - TFCS addition information - TFCS addition information - TFCS addition information - CHOICE TFCS Size - CTFC information - CHOICE TFCS size - CTFC information - CHOICE TFCS size - CTFC information -	- Unlink transport channel type		
	- Ull Transport channel identity		3
- Cuprote Transport channel type - Chroice Transport channel information - CHROICE TrC Signalling - TrCs addition information - CHROICE TrC Signalling - TrCs dubert thinormation - CHROICE TrC Signalling - TrC Sidest - CHROICE TrC Signalling - TrC Sidest typersentation - CHROICE TrC Signalling - TrC Sidest typersentation - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Sidest typersentation - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - TrC Side 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - TrC Side 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling - TrC Field 1 information - CHROICE TrC Signalling			5
- MAC Digital channel priority - Downlink RLC logical channels - Downlink RLC logical channels - Downlink transport channel identity - Logical channel info - Number of downlink RLC logical channels - Downlink transport channel identity - Logical channel identity - CHOICE TFCS - CHOICE TFCS ispaneling - TFC information - CHOICE TFCS representation - TFCS addition information - TFCS addition information - TFCS addition information - TFCS addition information - CHOICE TFCS representation - TFCS addition information - TFCS addition information - TFCS addition information - TFCS addition information - CHOICE TFCH information -			
- DWC- Updicat channel information - DWC- Updicat channel information - Number of downlink RLC logical channels - DWC- Updicat channel information - DU DCH Transport channel information - PRACH TFCS - CHOICE TrCS information - CHOICE TrCS isgnalling - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS isgnalling - TFCS subset - CHOICE TFCS isgnalling - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS isgnalling - CHOICE TFCS isgnalling - CHOICE TFCS representation - CHOICE T	- CHOICE RLC SIZE IISI		
- Downlink RC: Digital channel into - Number of downlink RL: Digital channels - Downlink transport channel type - DLDCH Transport channel identity - Logical channel identity - CHOICE TFCS - CHOICE TFCS ispanling - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS ispanling - FFC subset - PRACH TFCS - CHOICE TFCS representation - TFCS addition information - TFCS addition information - TFCS addition information - TFCS addition information - TFC information - TFC information - TFC information - CHOICE TFCS representation - CHOICE TFCS representation - Uplink transport channel type - Intributal UL CTCH information - Logical channel type - Transport channel	- MAC logical channel phonty		
- Number of Transport channel type - DL DCH Transport channel identity - Logical channel identity - Addet channel information for all transport - CHOICE mode - CHOICE TroC signalling - TroC addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroC s addition information - CHOICE TroC signalling - TroS solution signalling - TroC s addition informat	- DOWINNIK REC logical channel into		1
- DUMINIAL transport channel information for all transport - Logical channel information for all transport channels · PRACH TFCS · CHOICE TFCS · CHOICE TFCI signalling · TFCI Field 1 Information · TFCS addition information · CHOICE TFCS representation · CHOICE TFCS segresentation · CHOICE TFCS segresentation · TFCS addition information · CHOICE TFCS · CHOICE TFCS · CHOICE TFCS · CHOICE TFCS segresentation · TFCS addition information · CHOICE TFCS · CHOICE · CHOICE TFCS · CHOICE · CHOICE ·	- Number of downlink KEC logical channels		
- Logical channel identity - Logical channel information for all transport channels - PRACH TFCS - CHOICE TFCS - CHOICE TFCI signalling - TFC Field 1 information - CHOICE TFCI signalling - TFC Field 1 information - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS representation - TFC Find 1 information - CHOICE TFCS representation - TFC information - TFC information - CHOICE TFCS representation - TFC information - TFC information - CHOICE TFCS representation - Uplink transport channel type - Transport channel teentity	- Downlink transport channel identity		о 0
- Lugical channel information for all transport channels - PRACH TFCS - CHOICE mode - Individual UL CCTrCH information - TFCS ID - TFCI Field 1 information - CHOICE TFCI signalling - TFCC Field 1 information - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - TFCS addition information - TFCS addition information - TFCS addition information - TFCS addition information - TFC information - TFC information - TFC information - TFC information - CHOICE TFCS representation - TFC information - CHOICE TFCI signalling - TFC information - TFC information - CHOICE TFCI signalling - TFC information			0
DL Transport Channel information for all transport A4 - PRACH TFCS . - CHOICE mode 1 - Individual UL CCTrCH information 1 - FFCS ID 1 - Shared channel indicator 1 - UL TFCS FALSE - CHOICE TFCI signalling - - TFC Field 1 information - - CHOICE TFCS representation - - CHOICE TFCS sepresentation - - CHOICE TFCS sepresentation - - CHOICE TFCS sepresentation - - CHOICE TFCS isgnalling - - TFC subset - - CHOICE TFC Signalling - - TFCS addition information - - TFCS iddition information - - CHOICE TFCC Size - - CHOICE TFCC size	- Logical channel identity	A4 A0 A0	9
Channels A4 - PRACH TFCS Not Present - CHOICE mode 1 - Individual UL CCTCH information 1 - TFCS ID 1 - Otholice TFCS ignalling Normal - TFC Field 1 information Addition - CHOICE TFC Signalling Normal - TFC Saddition information Addition - CHOICE TFCS Size Refer to TS34.108 clause 6 - CHOICE TFCS Subset representation Refer to TS34.108 clause 6 - TFC subset AS, A6 UL Transport channel information A5, A6 - PRACH TFCS Refer to TS34.108 clause 6 - PRACH TFCS Refer to TS34.108 clause 6 - CHOICE TFCS representation A5, A6 - PRACH TFCS Refer to TS34.108 clause 6 - CHOICE TFCS representation A5, A6 - TFCS addition information A1, A2, A3 - CHOICE TFCS representation A1, A2, A3 - CHOICE TrCH information A1, A2, A3 - CHOICE TrCH information A1, A2, A3 - CHOICE TrCH information A1, A2, A3 - Uplink transport channel type <t< td=""><td>UL Transport channel information for all transport</td><td>A1, A2, A3,</td><td></td></t<>	UL Transport channel information for all transport	A1, A2, A3,	
PRACH TFCS CHOICE TFCS CHOICE TFCS ID Shared channel indicator UL TFCS UL TFCS CHOICE TFCI signalling TFCI Field 1 information - CHOICE TFCS representation - TFC subset - CHOICE TFCS representation - TFC subset - CHOICE TFCS representation - TFC Field 1 information - CHOICE TFCS representation - CHOICE TFCS representation - TFC subset - CHOICE TFCS representation - TFC Field 1 information - CHOICE TFCS representation - TFC Field 1 information - CHOICE TFCS representation - TFCS addition information - TFCS addition information - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - TFCS addition information - TFC Field a information - TFC Field a information - CHOICE TFCC Size - Transport channel type - Transport channel type - Transport channe	channels	A4	
- PRACH FECS - CHOICE mode - Individual UL CCTrCH information - TFCS ID - Shared channel indicator - UL TFCS - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCI sepresentation - TFCS addition information - CHOICE TFCS representation - Allowed Transport Format combination list UL Transport channel information - CHOICE TFCS representation - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS representation - TFCS addition information - CHOICE TFCS representation - CHOICE TrCH information - CHOICE TCH information - CHOICE TrCH information - CHOICE TrCH information - Uplink transport channel type - Ull Transport channel typ			
- Individual UL CCTrCH information - TFCS ID - Shared channel indicator - UL TFCS - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCS subset representation - CHOICE TFCS signalling - TFC subset - CHOICE TFCS signalling - TFC subset representation - CHOICE TFCS signalling - TFC subset representation - CHOICE TFCS signalling - TFC is during for all transport - CHOICE TFCS signalling - TFC is during for all transport - CHOICE TFCS representation - Uplink transport channel type - Transport channel type - Transport channel identity - Transport channel identity - TFS - CHOICE Transport channel type - Transport channel identity - Transport channel identity - Transport channel identity - TFS - CHOICE Transport channel type - Uplink transport channel type - Transport channel identity - Transport channel identity - Transport channel identity - Transport channel type - Tr	- PRACH IFCS		Not Present
Individual UL CC ITCH information - FTCS ID - Shared channel indicator - UL TFCS - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCC stree - CTFC information - CHOICE TFCE Stree - CTFC information - CHOICE TFCE Stree - CTFC information - TFCS addition information list - Allowed transport format combination list - Allowed transport format combination list - Refer to TS34.108 clause 6 Parameter Set - CTFC information - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCI signalling - TFCS addition information - TFCS addition information - CHOICE TFCI signalling - TFCS addition information - TFCS addition information - Uplink transport channel type - Uplink transport channel type - Transport channel type - Transport channel identity - TFS - CHOICE TFCI signalling - TFCI signalling - TFCI Field information - Uplink transport channel type - Transport channel type - Transport channel type - Transport channel identity - TFS - CHOICE TFCI signalling - TFCI Field signalling - TFCI Field signalling - Transport channel type - Transport channel type - Transport channel type - Transport channel type -	- CHOICE mode		לטו
- TFCS ID - Shared channel indicator - UL TFCS - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS subset - CHOICE TFCS subset representation - TFCS subset - CHOICE TFCS isgnalling - TFCI Field 1 information for all transport - Allowed Transport Format combination list UL Transport channel information - CHOICE TFCS representation - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS representation - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - CHOICE TFCS isgnalling - TFCI Field 1 information - Uplink transport channel type - Transport channel identity TFS - CHOICE TFCS isgnalling - Transport channel identity - Transport channel id	- Individual UL CC I rCH information		
- Shared channel indicator - ULTES - CHOICE TFCI signalling - TFCF leid 1 information - CHOICE TFC Size - CTFC information for all transport - TFCS addition information for all transport - TFCS addition information for all transport - Allowed Transport Format combination list UL Transport channel information - TFCS addition information - CHOICE TFCI signalling - TFCF Size - CTFC information - CHOICE TFCS representation - Allowed Transport Format combination list UL Transport channel information for all transport - CHOICE TFCS representation - TFCS addition information - CHOICE TFC Size - CTFC information - CHOICE TFC Size - CTFC information - CHOICE TFC Size - CTFC information - TFCS addition information - CHOICE TFC Size - CTFC information - CHOICE TFC Size - CTFC information - TFCS addition information - CHOICE TFC Size - CTFC information - TFCS addition information - CHOICE TFC Size - CTFC information - CHOICE	- TFCS ID		1
- UL TFCS - CHOICE TFCI signalling - TFC ielid 1 information - CHOICE TFC Size - CTFC information - CHOICE TFC Size - CTFC information - TFC subset - CHOICE TFC Size - CHOICE TFC Signalling - TFC subset - CHOICE TFC Signalling - TFC ield 1 information - CHOICE TFC Size - CHOICE TFC Signalling - TFC subset - CHOICE TFC Signalling - TFC Field 1 information - CHOICE TFC Size - CHOICE TFC Size - CHOICE TFC Signalling - CHOICE TFC Signalli	- Shared channel indicator		FALSE
- CHOICE TFCI signalling - TFCS addition information - CHOICE TFC Size - CTFC information - CHOICE TFC Size - CTFC information - TFCS addition information - TFCS addition for all transport - Allowed Transport Format combination list - Allowed Transport format combination list - Allowed Transport channel information - CHOICE TFCS - CHOICE TFCS signalling - TFCI Field 1 information - CHOICE TFCS representation - CHOICE TFCS size - CTFC information - CHOICE TFCS representation - CHOICE TFCS is representation - CHOICE TFCS representation - CHOICE TFCS is representation - CHOICE TFCS is representation - CHOICE TFCS representation - CHOICE TFCS representation - CHOICE TFCS representation - Uplink transport channel type - Individual UL CCTrCH information - Uplink transport channel type - Uplink transport channel type - Upli	- UL TFCS		
- TFCI Field 1 information - CHOICE TFCS representation - CTFC information - CTFC information - CTFC information - CHOICE Stree - CTFC information - Allowed Transport Format combination list - CHOICE TFCS - CHOICE TFCS - CHOICE TFCS representation - CHOICE TFCS is ginalling - TFCS addition information - CHOICE TFCS is description - CHOICE TFC is description - Transport channel is description - Transport channel is description - Transport channel is description	- CHOICE TFCI signalling		Normal
- CHOICE TFCS representation - TFCS addition information - CHOICE TFC Size - CTFC information - TFCS addition for all transport - Allowed transport format combination list - CHOICE Subset representation - Allowed transport format combination list UL Transport channel information for all transport - CHOICE TFCS representation - CHOICE TFC size - CTFC information - CHOICE TFC size - CTFC information - TFC information - CHOICE TFC size - CTFC information - TFC information - CHOICE TFC size - CTFC information - TFC information - CHOICE TFC size - CTFC information - Uplink transport channel type - Infavious DCH - Transport channel identity - Transport channel identity - Transport channel identity - TFS - CHOICE TrCH information - Uplink transport channel type - Uplink tr	- TFCI Field 1 information		
- TFCS addition information - CHOICE CTFC Size Refer to TS34.108 clause 6 - CHOICE Subset representation - Allowed transport format combination list Allowed transport format combination list UL Transport channel information A5, A6 - CHOICE TFC Size A5, A6 - CHOICE TFC signalling Addition - TFC Field 1 information A5, A6 - CHOICE TFC Signalling Addition - TFC Field 1 information A1, A2, A3 - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE TFC Size TDD - CHOICE Tromation A1, A2, A3 - CHOICE Tromation A1, A2, A3 - CHOICE mode TDD - Individual UL CCTrCH information A4 Deleted UL TrCH information A4 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Uplink transport channel type DCH	 CHOICE TFCS representation 		Addition
- CHOICE CTFC Size Refer to TS34.108 clause 6 - TFC subset - CHOICE Subset representation - Allowed transport format combination list Allowed transport format combination list UL Transport channel information A5, A6 - PRACH TFCS - CHOICE TFC signalling - TFC Field 1 information A5, A6 - CHOICE TFCS representation Addition - TFCS addition information - CHOICE TFCS representation - CHOICE TFCS representation Addition - CHOICE TFCS representation Normal - CHOICE mode Not Present - CHOICE ITFCH information A1, A2, A3 - Uplink transport channel type DCH - TFS	- TFCS addition information		
- CTFC information Refer to TS34.108 clause 6 Parameter Set - TFC subset - CHOICE Subset representation Allowed transport format combination list - Allowed Transport channel information for all transport A5, A6 - PRACH TFCS - CHOICE TFCS representation A5, A6 - CHOICE TFC I signalling - TFCI Field 1 information Addition - TFC addition information - CHOICE TFC S representation Addition - CHOICE TFC I spresentation - CTFC information Addition - CHOICE TFC I stormation - CTFC information Addition - CHOICE TFC Information A1, A2, A3 Not Present Deleted UL TrCH information A4 DCH - Individual UL CCTrCH information A4 DCH - Individual UL CCTCH information A4 DCH - Uplink transport channel type 15 DCH - Transport channel identity 15 DCH - Transport channel type A4 DCH - Transport channel type DCH 1 - Uplink transport channel type 5 DCH - Transport channel type DCH 5 - TFS	- CHOICE CTFC Size		Refer to TS34.108 clause 6
- TFC subset - CHOICE Subset representation - Allowed Transport Format combination list - Allowed Transport Format combination list Refer to TS34.108 clause 6 Parameter Set UL Transport channel information - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCS representation - Transport channel type - TFS - CHOICE Transport channel type - Uplink transport channel type - Transport channel type - TFS - CHOICE Transport channel type - TFS - CHOICE Transport channel type - Uplink transport channel type - Transport channel type - CHOICE Transport channel type - Transport channel type - CHOICE Transport channel type - Upl	- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- CHOICE Subset representation Allowed transport format combination list - Allowed Transport Channel information for all transport A5, A6 UL Transport channel information for all transport A5, A6 - PRACH TFCS Normal - CHOICE TFCI signalling Normal - TFCI Field 1 information Addition - TFCI Field 2 information Addition - TFCI regresentation Addition - TFCI formation Refer to TS34.108 clause 6 - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE mode Not TDE - Individual UL CCTrCH information A1, A2, A3 Deleted UL TrCH information A1, A2, A3 - Uplink transport channel type DCH - Transport channel type 1 - Uplink transport channel type DCH - Transport channel type 5 - Transport channel type 5 - Uplink transport channel type 5 - CHOICE Transport	- TFC subset		
- Allowed Transport Format combination list Refer to TS34.108 clause 6 Parameter Set UL Transport channel information for all transport channels A5, A6 - PRACH TFCS - PRACH TFCS - CHOICE TFCI signalling Addition - TFCI Field 1 information Addition - CHOICE TFCS representation Addition - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE mode TDD - Individual UL CCTrCH information A1, A2, A3 Deleted UL TrCH information A4 Deleted UL TrCH information A4 - Uplink transport channel type DCH - Transport channel type DCH - Uplink transport channel type DCH - Transport channel type 5 - Uplink transport channel type 5 - CHOICE Transport channel type 5 - Uplink transport channel type 5 - Uplink transport channel type 5 - Uplink transport channel type 5 - CHOICE Transport format information	 CHOICE Subset representation 		Allowed transport format combination list
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channels - PRACH TFCS - PRACH TFCS - CHOICE TFCI signalling - TFCI Field 1 information - CHOICE TFCS representation - TFCS addition information - CTFC information - CHOICE TFCS ize Refer to TS34.108 clause 6 - CHOICE mode TDD - CTFC information A1, A2, A3 Not Present Deleted UL TrCH information Deleted UL TrCH information A1, A2, A3 Not Present DCH - Transport channel type 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel type 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - Transport channel identity 5 - CHOICE Transport channel type DCH - Transport channel identity 5 - CHOICE Transport channel type Dedicated transport channels - Dynamic Transport format information Reference to TS34.108	UL Transport channel information for all transport	A5, A6	
- PRACH TFCS . CHOICE TFCI signalling Normal - TFCI Field 1 information . Addition - TFCS addition information . Addition - TFCS addition information . Addition - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE mode . TDD - Individual UL CCTrCH information A1, A2, A3 - Uplink transport channel type . Transport channel type - Transport channel type . Transport channel type - Transport channel type . DCH - Uplink transport channel type . DCH - Uplink transport channel type . DCH - Transport channel identity . DCH - Transport channel type . DCH - Transport channel identity . S - Uplink transport channel type . DCH - CHOICE Transport channel type </td <td>channels</td> <td></td> <td></td>	channels		
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- TFCI Field 1 information - CHOICE TFCS representation - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE mode TDD - Individual UL CCTrCH information A4 Deleted UL TrCH information A1, A2, A3 Not Present DCH Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type 5 - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - Transport channel identity 5 - CHOICE Transport channel type DCH - Transport channel identity 5 - CHOICE Transport channel type DCH - Dynamic Transport format information A1, A2, A3, A4 - Number of TBs and TTI List	- CHOICE TFCI signalling		Normal
- CHOICE TFCS representation Addition - TFCS addition information - CHOICE TFC Size - CHOICE TFC Size Refer to TS34.108 clause 6 - CHOICE mode TDD - Individual UL CCTrCH information A4 Deleted UL TrCH information A4 0 - Uplink transport channel type - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 5 - Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type 5 - CHOICE Transport channel type 5 - Uplink transport channel type 5 - CHOICE Transport channel type 5 - CHOICE Transport channel type 5 - CHOICE Transport channel type 5	- TFCI Field 1 information		
- TFCS addition information - CHOICE CTFC Size Refer to TS34.108 clause 6 - CTFC information Refer to TS34.108 clause 6 Refer to TS34.108 clause 6 - CHOICE mode TDD Not Present - Individual UL CCTrCH information A1, A2, A3 Not Present Deleted UL TrCH information A4 DCH - Uplink transport channel type DCH 15 Deleted UL TrCH information A5 DCH - Transport channel identity 1 DCH - Transport channel identity DCH 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 DCH - Uplink transport channel type DCH 5 - Transport channel identity 5 DCH - Transport channel identity 5 DCH - Transport channel identity 5 DCH - Uplink transport channel type DCH 5 - UL Transport channel identity 5 DCH - Transport channel identity 5 CHOICE Transport channel type - UL Transport channel identity 5 DCH - TRES CHOICE Transport format information <	 CHOICE TFCS representation 		Addition
- CHOICE CTFC Size Refer to TS34.108 clause 6 - CTFC information Refer to TS34.108 clause 6 - CHOICE mode TDD - Individual UL CCTCH information A1, A2, A3 Deleted UL TrCH information A4 - Uplink transport channel identity DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity DCH - Transport channel identity 1 - Uplink transport channel identity DCH - Transport channel identity DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 - CHOICE Transport channel identity 5 - TFS CHOICE Transport channel type - Uplink transport channel identity 5 - TFS CHOICE Transport channel type - DYnamic Transport channel type Dedicated transport channels - Number of TBs and TTI List (This IE is repeated for TFI	 TFCS addition information 		
- CTFC information Refer to TS34.108 clause 6 Parameter Set TDD - CHOICE mode Not Present - Individual UL CCTrCH information A1, A2, A3 Deleted UL TrCH information A4 - Uplink transport channel type DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity DCH - Transport channel identity 1 - Uplink transport channel identity DCH - Transport channel identity 5 - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 - Transport channel identity 5 - Uplink transport channel type DCH - Transport channel identity 5 - Uplink transport channel type DCH - TFS - CHOICE Transport channel type - DYnamic Transport format information Reference to TS34.108 clause 6 Parameter - RLC Size - Number of TBs and TTI List - Number of TBs and TTI List Kerence to TS34.108 clause 6 Parameter - Number of Tansport blocks	- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CHOICE mode TDD - Individual UL CCTrCH information A1, A2, A3 Deleted UL TrCH information A1, A2, A3 Deleted UL TrCH information A4 - Uplink transport channel type DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 - Trasport channel identity 5 - Uplink transport channel type DCH - UL Transport channel type DCH - UL Transport channel identity 5 - TFS CHOICE Transport channel type - Dynamic Transport format information Reference to TS34.108 clause 6 Parameter - Number of TBs and TTI List Transmission Time Interval - Number of TBs and TTI List Not Present <	- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- Individual UL CCTrCH information Not Present Deleted UL TrCH information A1, A2, A3 Not Present Deleted UL TrCH information A4 DCH - Uplink transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity DCH - Transport channel identity 5 - Transport channel identity 5 - Transport channel identity 5 - Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type 5 - Uplink transport channel type DCH - TFS CHOICE Transport channel type - Dynamic Transport format information A1, A2, A3, A4 - RLC Size Dedicated transport channels - Number of TBs and TTI List TTI List - Number of TBs and TTI List Not Present - Number of Transport blocks Reference to TS34 108 clause 6 Parameter	- CHOICE mode		TDD
Deleted UL TrCH information A1, A2, A3 Not Present Deleted UL TrCH information A4 DCH - Uplink transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity 1 Deleted UL TrCH information A5 - Uplink transport channel identity 1 - Uplink transport channel identity 1 - Uplink transport channel identity 5 - Transport channel identity 5 - Transport channel identity 5 - Uplink transport channel identity 5 - Transport channel identity 5 - Transport channel identity 5 - Uplink transport channel type DCH - TFS DCHOICE Transport channel identity - TFS Dedicated transport channels - CHOICE Transport format information CHOICE Transport format information - RLC Size Dedicated transport channels - Number of TBs and TTI List CHoices - Transmission Time Interval Not Present - Number of Transport blocks Beforence to TS34 108 clause 6 Parameter	 Individual UL CCTrCH information 		Not Present
Deleted UL TrCH information A4 - Uplink transport channel identity DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel identity 1 - Uplink transport channel identity 1 - Uplink transport channel identity 1 - Uplink transport channel identity DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel identity 5 - Uplink transport channel type DCH - Uplink transport channel identity 5 - TFS - CHOICE Transport channel type - Dynamic Transport format information - RLC Size - Number of TBs and TTI List - Number of TBs and TTI List - Number of Tansport blocks Reference to TS34 108 clause 6 Parameter	Deleted UL TrCH information	A1, A2, A3	Not Present
- Uplink transport channel type DCH - Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type 5 - Uplink transport channel type DCH - TFS CHOICE Transport channel type - Dynamic Transport channel type Dedicated transport channels - Number of TBs and TTI List (This IE is repeated for TFI number.) - Transmission Time Interval Not Present - Number of TRs and TTI List Reference to TS34 108 clause 6 Parameter	Deleted UL TrCH information	A4	
- Transport channel identity 15 Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 0CH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type 5 - Uplink transport channel type 5 - UL Transport channel identity 5 - UL Transport channel type DCH - UL Transport channel type DCH - UL Transport channel type S - UL Transport channel type DCH - TFS CHOICE Transport channel type - Dynamic Transport format information Reference to TS34.108 clause 6 Parameter - RLC Size Not Present - Number of TBs and TTI List Not Present - Number of Transport blocks Reference to TS34 108 clause 6 Parameter	- Uplink transport channel type		DCH
Deleted UL TrCH information A5 - Uplink transport channel type DCH - Transport channel identity DCH - Uplink transport channel identity DCH - Transport channel identity DCH - Transport channel identity S Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - UL Transport channel identity 5 - UL Transport channel identity 5 - UL Transport channel identity 5 - TFS OCH - CHOICE Transport channel type Dedicated transport channels - Dynamic Transport format information Reference to TS34.108 clause 6 Parameter - Number of TBs and TTI List Transmission Time Interval - Number of TRansport blocks Not Present - Number of TRansport blocks Reference to TS34.108 clause 6 Parameter	- Transport channel identity		15
- Uplink transport channel type DCH - Transport channel identity 1 - Uplink transport channel type DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - Uplink transport channel type 5 - Uplink transport channel type DCH - UL Transport channel type DCH - UL Transport channel identity 5 - TFS Dedicated transport channels - Dynamic Transport format information (This IE is repeated for TFI number) - RLC Size Reference to TS34.108 clause 6 Parameter - Number of TBs and TTI List (This IE is repeated for TFI number.) - Transmission Time Interval Not Present - Number of Transport blocks Reference to TS34.108 clause 6 Parameter	Deleted UL TrCH information	A5	
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- Uplink transport channel type DCH - Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - Uplink transport channel type DCH - UL Transport channel identity 5 - UL Transport channel identity 5 - TFS - CHOICE Transport channel type - Dynamic Transport format information Chis IE is repeated for TFI number) - RLC Size Reference to TS34.108 clause 6 Parameter - Number of TBs and TTI List CThis IE is repeated for TFI number.) - Transmission Time Interval Not Present - Number of Transport blocks Reference to TS34.108 clause 6 Parameter	- Transport channel identity		1
- Transport channel identity 5 Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - UL Transport channel identity 5 - TFS CHOICE Transport channel type - Dynamic Transport format information Dedicated transport channels - RLC Size Dedicated transport channels - Number of TBs and TTI List Transmission Time Interval - Number of Transport blocks Not Present - Number of Transport blocks Reference to TS34 108 clause 6 Parameter	- Uplink transport channel type		DCH
Added or Reconfigured UL TrCH information A1, A2, A3, A4 - Uplink transport channel type DCH - UL Transport channel identity 5 - TFS CHOICE Transport channel type - Dynamic Transport format information CHOICE Transport format information - RLC Size Dedicated transport channels - Number of TBs and TTI List (This IE is repeated for TFI number.) - Transmission Time Interval Not Present - Number of Transport blocks Reference to TS34 108 clause 6 Parameter	- Transport channel identity		5
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 	Added or Reconfigured UL TrCH information	A1. A2. A3.	
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 		A4	
- UL Transport channel identity - TFS - CHOICE Transport channel type - Dynamic Transport format information - RLC Size - Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks	- Uplink transport channel type		DCH
 TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 	- UI Transport channel identity		5
 CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 	- TFS		-
- Dynamic Transport format information - RLC Size - Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks	- CHOICE Transport channel type		Dedicated transport channels
- RLC Size - Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks	- Dynamic Transport format information		(This IF is repeated for TFI number)
- Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks	- RIC Size		Reference to TS34 108 clause 6 Parameter
- Number of TBs and TTI List - Transmission Time Interval - Number of Transport blocks - Number of Transport blocks			Set
- Transmission Time Interval - Number of Transport blocks Reference to TS34 108 clause 6 Parameter	- Number of TBs and TTLList		(This IF is repeated for TFI number.)
- Number of Transport blocks	- Transmission Time Interval		Not Present
	- Number of Transport blocks		Reference to TS34 108 clause 6 Parameter

		Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34,108 clause 6 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter
.)po or original occurry		Set
- Coding Rate		Reference to TS34,108 clause 6 Parameter
		Set
- Rate matching attribute		Reference to TS34 108 clause 6 Parameter
		Set
- CRC size		Reference to TS34 108 clause 6 Parameter
0110 0120		Set
Added or Reconfigured LIL TrCH information	ΔΛ	
- Unlink transport channel type	7.4	рсн
- LIL Transport channel identity		1
		1
CHOICE Transport channel type		Dedicated transport chappels
Dunamia Transport format information		(This IE is reported for TEL number)
		(This IE is repeated for TFT humber)
- RLC Size		Reference to 1534.106 clause 6 Parameter
- Number of TBs and TTT List		(This IE is repeated for TFI number.)
- I ransmission Time Interval		
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter
		Set
- CHOICE Logical Channel list		ALL
 Semi-static Transport Format information 		
 Transmission time interval 		Reference to TS34.108 clause 6 Parameter
		Set
 Type of channel coding 		Reference to TS34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
Ũ		Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter
3		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
DL Transport channel information common for all	A1 A3	
transport channel	/ (1, / 10	
- SCCPCH TECS		Not Present
- CHOICE mode		
- Individual DL CCTrCH information		100
		1
- IFCO ID Sharad Channel Indicator		
		raloe Independent
- CHOICE DL parameters		Independent
- DL IFCS		
		Normal
- IFCI Field 1 Information		
- CHOICE TFCI representation		Addition
- IFCS addition information		
- CHOICE CIFC size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all	A2, A4	
transport channel		
- SCCPCH TFCS		
		Not Present
		Not Present TDD
- Individual DL CCTrCH information		Not Present TDD
- Individual DL CCTrCH information - DL TFCS Identity		Not Present TDD
 - Undee - Individual DL CCTrCH information - DL TFCS Identity - TFCS ID 		Not Present TDD 1
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator 		Not Present TDD 1 FALSE
 - CHOICE mode - Individual DL CCTrCH information - DL TFCS Identity - TFCS ID - Shared Channel Indicator - CHOICE DL parameters 		Not Present TDD 1 FALSE Independent
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator CHOICE DL parameters DL TFCS 		Not Present TDD 1 FALSE Independent
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator CHOICE DL parameters DL TFCS CHOICE TFCI signalling 		Not Present TDD 1 FALSE Independent Normal
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator CHOICE DL parameters DL TFCS CHOICE TFCI signalling TFCI Field 1 Information 		Not Present TDD 1 FALSE Independent Normal
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator CHOICE DL parameters DL TFCS CHOICE TFCI signalling TFCI Field 1 Information CHOICE TFCI representation 		Not Present TDD 1 FALSE Independent Normal Addition
 Individual DL CCTrCH information DL TFCS Identity TFCS ID Shared Channel Indicator CHOICE DL parameters DL TFCS CHOICE TFCI signalling TFCI Field 1 Information CHOICE TFCI representation TFCS addition information 		Not Present TDD 1 FALSE Independent Normal Addition

- CTFC information		Refer to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all	A5, A6	
transport channel	,	
- SCCPCH TFCS		(This IE is repeated for TFC number.)
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Number of bits used must be enough to cover
		all combinations of CTFC from clause 6.
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- Power offset information		Not Present
- CHOICE mode		TDD
- Individual DL CCTrCH information		Not Present
iDeleted DL TrCH information	A1, A2, A3,	Not Present
,	A6	
Deleted DL TrCH information	A4	
- Downlink transport channel type		DCH
- Transport channel identity		12
- Downlink transport channel type		DCH
- Transport channel identity		13
- Downlink transport channel type		DCH
- Transport channel identity		14
Deleted DL TrCH information	A5	
- Downlink transport channel type		DCH
- Transport channel identity		6
- Downlink transport channel type		DCH
- Transport channel identity		10
Added or Reconfigured DL TrCH information	A1	
- Downlink transport channel type		DCH
- Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH Identity		5
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A2, A3, A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Independent
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter
		Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3
 Transparent mode signalling info 		Not Present
Frequency info		
- CHOICE mode		TDD
- UARFCN (Nt)		Reference to TS34.108 clause 6

	1	1
Maximum allowed UL TX power		30dBm
		Liplink DBCH info
	AT, AZ, AS,	
	A4	
-Unlink DPCH nower control info		
- CHOICE mode		חחד
- UL Target SIR		Reference to TS34.108
CHOICE LIL OL DC info		Individually aignalled
		inuividually signalied
- CHOICE TDD option		1.28 Mcps TDD
TDC aton aiza		
- TPC step size		IUD
- Primary CCPCH Tx Power		Reference to TS34.108
CHOICE made		חחד
		עטו
 Uplink Timing Advance Control 		Not Present
- TFCS ID		1
Time info		
- Time Into		
- Activation time		(256+CFN-(CFNmod 8 + 8))MOD256
Duration		infinito
- Duralion		mmme
 Common timeslot info 		
2 nd interleaving mode		Potoronoo to TS24 109 alouno 6 Doromotor
- 2 Interleaving mode		Reference to 1354.100 clause o Parameter
		Set.
TECI opding		Beforence to TS24 109 clause 6 Decemptor
- TFCT coding		Reference to 1534. Too clause o Parameter
		Set
Durante state and the fit		Defense to TOOA 400 sloves 0 Devenden
- Puncturing Limit		Reference to 1534.108 clause 6 Parameter
		Set
Deve of the very Device of		
- Repetition Period		1
- Repetition Length		Empty
		Empty
- Uplink DPCH timeslots and codes		
- First timeslot information		
		4 00 14
- CHOICE IDD option		1.28 Mcps
- Timeslot number		The number of an unlink timeslot that has
		unassigned codes.
- TECL existence		TRUE
		INOL
 Midamble shift and burst type 		
CHOICE TOD option		1.29 Mana
		1.20 10005
- Midamble Allocation Mode		Default
Midamble configuration		16
- Midample conliguration		10
- CHOICE TDD option		1.28 Mcps
Madulation		ODCK
- Modulation		QPSK
- SS-TPC Symbols		1
First timeslet ands list		Dependent (1.2) for each channelization and
- First timeslot code list		Repeated (1,2) for each channelisation code
		that is assigned in the slot
Channelization Code		$(i/\Omega \Sigma)$ where i denotes the code that is being
- Channelisation Code		(I/SF) where I denotes the code that is being
		assigned and SF is specified in TS34.108
		alouge C Deremeter Cet
		clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IF depends on number of
		$\frac{1}{100} = \frac{1}{100} = \frac{1}$
		resources specified in 1534.108 section 6 and
		whether they are being assigned in more than
		one timeslot.
CHOICE channel requirement	A5 A6	Not Present
	710, 710	
CHOICE Mode		ם מו
Downlink information common for all radio links	Δ1 Δ2 Δ4	
	///,//2,//4	
- Downlink DPCH into common for all RL		
- Timing indicator		Maintain
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH nower control information	1	
-CHOICE mode		TDD
-TPC Step Size		1
	I	
- CHOICE mode		IDD
- CHOICE TDD option		1 28 Mcns
- TSTD indicator		TRUE
- Default DPCH Offset Value		Not Present
	A.4. A.0. A.5.	
-Downlink information for each radio link	A1, A2, A3,	
	A4	
Developly information for a set works that		
 Downlink information for each radio links 		
- CHOICE mode	1	TDD
- Primary CCPCH Into	1	
- CHOICE mode		TDD

- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
		0
- Cell parameters ID		
- Block STTD indicator		FALSE
 Downlink DPCH info for each RL 		
- CHOICE mode		חחד
		155
- TECS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
O nd interleaving mode		Deference to TC24 109
- Z Interleaving mode		Reference to 1534.106
- IFCI coding		IRUE
- Puncturing limit		Reference to TS34.108 clause 6 Parameter
·		Set
Popotition pariod		1
- Repetition Jan eth		T The set of the set o
- Repetition length		Empty
 Downlink DPCH timeslots and codes 		
 Individual timeslot info 		
- Timeslot number		The number of a downlink timeslot that has
		unposigned endes
TEOL		
- IFCI existence		IRUE
 Midamble shift and burst type 		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
Midamble configuration		
		10
- CHOICE TDD option		1.28 Mcps IDD
- Modulation		QPSK
- SS-TPC Symbols		1
First timeslet channelisation codes		•
- First channelisation code		(I/SF) where I is the lowest numbered code
		assigned within the timeslot and SF is
		specified in TS34.108 clause 6 Parameter Set.
 Last channelisation code 		(i/SE) where i is the highest numbered code
East sharmonsalish sods		assigned in the timeslet
D'i		
- Bitmap		Bitmap of the codes assigned in this timeslot.
 CHOICE more timeslots 		The presence of this IE depends upon slot
		allocations used in the test.
- Secondary CCPCH info		Not Present
Developing information for each radia link		Not Tresent
- Downlink information for each radio link	A5, A6	
- Choice mode		IDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1 28 Mcps TDD
		IRUE
- Cell parameters ID		0
 Block STTD indicator 		TRUE
- Downlink DPCH info for each RL		Not present
- SCCPCH information for EACH		Not present
	1	not present

Condition	Explanation
A1	This IE need for "Non speech in CS"
A2	This IE need for "Speech in CS"
A3	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info CHOICE mode	Not checked TDD
- CHOICE TDD option	1.28 Mcps
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3.
Integrity check info	The presence of this IE is dependent on IXIT statements in
5 7	TS 34.123-2. If integrity protection is indicated to be active,
	this IE is present with the values of the sub IEs as stated
	below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and
5	writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC State indicator	CELL_DCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	Net Present
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	
- Opinik transport channel identity	5
- OL Transport channel identity	
- CHOICE RI C size list	
- MAC logical channel priority	1
- Downlink RI C logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
 Information for each multiplexing option 	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- CHOICE RLC SIZE IISt	All
- MAC logical channel phonty	2
- Downlink RLC logical channel into	1
- Number of downlink RLC logical charmels	
- DL DCH Transport channel identity	
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS, DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	3
- CHOICE RLC size list	All
- MAC logical channel priority	3
 Downlink RLC logical channel info 	

 Number of downlink RLC logical channels 	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- Logical channel identity	3
BB information to be affected	(AM DCCH for NAS_DT Low priority)
DD identity	
- RB identity	4
- RB mapping info	
 Information for each multiplexing option 	
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- Logical channel identity	4
- CHOICE PLC size list	
	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
 Downlink transport channel type 	DCH
 DL DCH Transport channel identity 	10
- Logical channel identity	4
Downlink counter synchronisation info	Not Present
III Transport channel information for all transport	
channels	
	Not Procent
- CHOICE mode	לוסו
- Individual UL CCTrCH information	
- TFCS ID	1
 Shared channel indicator 	FALSE
- UL TFCS	
- CHOICE TECI signalling	Normal
- TECL Field 1 information	
- CHOICE TECL representation	Addition
TECS addition information	Addition
- CHOICE CIFC Size	Refer to 1S34.108 clause 6
- CTFC information	Refer to TS34.108 clause 6 Parameter Set
- TFC subset	
 CHOICE Subset representation 	Allowed transport format combination list
- Allowed Transport Format combination list	Refer to TS34.108 clause 6 Parameter Set
Deleted LIL TrCH Information	
- Transport channel identity	1
	If TrOLL recording unching in expected there this is recorded (a.g.
Added of Reconfigured UL TICH information	If ITCH reconfiguration is executed then this is needed(e.g.
	The rate of SRB for DCCH is changed.).
 Uplink transport channel type 	DCH
 UL Transport channel identity 	5
- TFS	
- CHOICE Transport channel type	Dedicated transport channels
- Dynamic Transport format information	
- BLC Size	(This IE is repeated for TEI number)
- Number of TBs and TTL List	(This IE is repeated for TFI number) Reference to TS34 108 clause 6 Parameter Set
Transmission Time Interval	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TEI number.)
	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.)
	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present
- Number of Transport blocks	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set
 Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding 	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute 	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute CPC size 	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute CRC size 	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel - SCCPCH TFCS	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - Individual DL CCTrCH information	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.1
- Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - Individual DL CCTrCH information - DL TFCS Identity	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
Number of Transport blocks - CHOICE Logical Channel list - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size CHOICE mode DL Transport channel information common for all transport channel - SCCPCH TFCS - CHOICE mode - Individual DL CCTrCH information - DL TFCS Identity - TFCS ID	(This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.1

- CHOICE DL parameters	Independent
- DL TFCS	
- CHOICE TFCI signalling	Normal
- TFCI Field 1 Information	
- CHOICE TECI representation	Addition
- TECS addition information	
	Defer to TS24 109 eleves 6
- CIFC information	Refer to 1534.108 clause 6 Parameter Set
Deleted DL TrCH Information	
- Transport channel identity	6
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g.
	The rate of SRB for DCCH is changed.).
- Downlink transport channel type	
DL Transport shannel identity	10
	10 Independent
- CHOICE DL parameters	Independent
- 1FS	
- CHOICE Transport channel type	Dedicated transport channels
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC Size	Reference to TS34.108 clause 6 Parameter Set
- Number of TBs and TTI List	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34 108 clause 6 Parameter Set
- CHOICE Logical Channel list	
- Choice Logical Charment information	ALL
- Semi-static Transport Format Information	
- Transmission time interval	Reference to 1534.108 clause 6 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6 Parameter Set
 Rate matching attribute 	Reference to TS34.108 clause 6 Parameter Set
- CRC size	Reference to TS34.108 clause 6 Parameter Set
- DCH quality target	
- BLER Quality value	-6.3
Transporent mode signalling info	Not Dropont
	Not Present
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UL TX power	30dBm
Unlink DPCH info	
- CHOICE mode	חחד
- CHOICE Mode	100
	Defense to T004400
- UL Target SIR	Reference to 1534.108
- CHOICE UL OL PC info	Individually signalled
- CHOICE TDD option	1.28 Mcps TDD
- TPC step size	1
- Primary CCPCH Tx Power	Reference to TS34.108
- CHOICE mode	TDD
- Unlink Timing Advance Control	Not Present
	Not i resent
	1
- Activation time	(256+CFN-(CFN MOD 8 + 8) MOD 256
- Duration	Infinite
- Common timeslot info	
- 2 nd interleaving mode	Reference to TS34.108 clause 6 Parameter Set .
- TFCI coding	Reference to TS34.108 clause 6 Parameter Set.
- Puncturing Limit	Reference to TS34,108 clause 6 Parameter Set
- Repetition Period	Reference to TS34 108 clause 6 Parameter Set
- Panetition Length	Reference to TS3/ 108 clause 6 December Set
- Nepetition Length	Neisienue in 1004.100 liause o Faidillelei Sel.
- First timeslot information	4 00 14
- CHOICE TDD option	1.28 Mcps
- Timeslot number	The number of an uplink timeslot that has unassigned
	codes.
- TFCI existence	TRUE
- Midamble shift and burst type	
- CHOICE TDD ontion	1.28 Mcns
Midomble Allocation Made	Default
- ividamble Allocation ivide	
- Midamble configuration	
- CHOICE TDD option	1.28 Mcps

- Modulation	OPSK
- SS-TPC Symbols	
- First timeslot code list	Repeated (1.2) for each channelisation code that is
	assigned in the timeslot
- Channelisation Code	(i/SE) where i denotes an unaccigned code and SE is
	(NOF) where ruenoles an unassigned code and or is
	specified in 1S34.108 clause 6 Parameter Set.
- CHOICE more timeslots	The presence of this IE depends on number of resources
	specified in TS34.108 section 6 and whether they are
	assigned in more than one timeslot.
CHOICE Mode	TDD
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing indicator	Maintain
- CFN-targetSFN frame offset	Not Present
- Downlink DPCH power control information	
-CHOICE mode	חחד
-TPC Step Size	1
- CHOICE mode	
	1.28 Mons
	TDHE
- TSTD Indicator	IRUE
	U
Downlink Information for each radio link list	
- Downlink information for each radio links	
- CHOICE mode	טטו
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps
- TSTD indicator	TRUE
- Cell parameters ID	0
- Block STTD indicator	FALSE
- Downlink DPCH info for each RI	
- CHOICE mode	חחד
	100
	1
- TECS ID	
- Activation time	(250+CFIN-(CFIN WOD 8 + 8))WOD 250
- Duration	Infinite
- Common timesiot into	
- 2 Interleaving mode	Reference to 1534.108 clause 6 Parameter Set
-TFCI coding	Reference to TS34.108 clause 6 Parameter Set
- Puncturing limit	Reference to TS34.108 clause 6 Parameter Set
- Repetition period	1
- Repetition length	Empty
 Downlink DPCH timeslots and codes 	
- Individual timeslot info	
- Timeslot number	The number of a downlink timeslot that has unassigned
	codes.
- TFCI existence	TRUE
- Midamble shift and burst type	
- CHOICE TDD option	1.28 Mcps
- Midamble allocation mode	Default
- Midamble configuration	16
	1.28 Mcns TDD
- Modulation	OPSK
- 30-1FC Syllipuis First timeslet shappelisation and a	
- First timesiot channelisation codes	
- First channelisation code	(I/SF) where I is the lowest numbered unused code that is
	assigned in the timeslot and SF is specified in 1S34.108
	Parameter Set.
 Last channelisation code 	(j/SF) where j is the highest numbered code that is
	assigned in the timeslot.
- Bitmap	Bitmap of codes assigned in the slot.
- CHOICE more timeslots	The presence of this IE depends upon whether the
	resources specified in the TS34.108 clause 6 Parameter
	Set require the use of more than one timeslot.
- Secondary CCPCH info	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element		Value/remark
Message Type		
PPC transaction identifier		Arbitrarily colocts on integer between 0 and 2
		Arbitrarily selects an integer between 0 and 5
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Fise this IF and the sub-IFs
		are emitted
- message authentication code		SS calculates the value of MAC-I for this
		message and writes to this IE.
 RRC message sequence number 		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		
		(230+CFN-(CFN WOD 0 + 0))WOD 230
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	CELL FACH
LITRAN DRX cycle length coefficient	7.0,7.0	Not Present
		Not Present
CN Information info		Not Present
Signalling Connection release indication		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to release	Δ2	
- PB identity	/\ <u>L</u>	10
- RD identity	4.0	10
RB information to release	AZ	
- RB identity		11
RB information to release	A2	
- RB identity		12
RB information to release	A3 A4 A5	
	A6	
DD identity	70	20
- RD Identity		20
RB information to release	A4	
- RB identity		6
RB information to release	A4	
- RB identity		7
RB information to be affected	Δ2 Δ3 Δ4	(LIM DCCH for BBC)
PR identity	712,710,714	
- RD identity		
- RB mapping into		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
 Number of uplink RLC logical channels 		1
- Uplink transport channel type		DCH
- III Transport channel identity		5
		1
- CHOICE RLC SIZE IIST		All
 MAC logical channel priority 		1
 Downlink RLC logical channel info 		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		10
		1
RB information to be affected	A2, A3, A4	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
- RLC logical channel mapping indicator		Not Present
- Number of unlink PLC logical channels		1
- NUMBER OF UPININ NEO IOGICAL CHAMPERS		
- Opink transport channel type		
- UL Transport channel identity		5
 Logical channel identity 		2
- CHOICE RLC size list		All
- MAC logical channel priority		2
- Downlink RI C logical channel info		

	r	1.
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		DCH
- DL DCH Transport channel identity		10
Logical channel identity		2
	10.00.04	
RB information to be affected	A2, A3, A4	(AM DCCH for NAS_DT High priority)
- RB identity		3
- RB mapping info		
- Information for each multiplexing option		
BLC logical channel manning indicator		Not Dropont
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
 Uplink transport channel type 		DCH
- UL Transport channel identity		5
Logical channel identity		2
		3
- CHOICE RLC size list		All
- MAC logical channel priority		3
 Downlink RLC logical channel info 		
- Number of downlink RLC logical channels		1
- Number of downlink REO logical channels		
- Downlink transport channel type		
- DL DCH Transport channel identity		10
 Logical channel identity 		3
RB information to be affected		(AM DCCH for NAS_DT Low priority)
DB identity	7.2, 7.0, 7.4	
		4
- RB mapping info		
 Information for each multiplexing option 		
- RLC logical channel manning indicator		Not Present
Number of uplink DLC logical channels		1
- Number of uplink RLC logical channels		
 Uplink transport channel type 		DCH
 UL Transport channel identity 		5
- Logical channel identity		4
		All
- MAC logical channel priority		4
 Downlink RLC logical channel info 		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
BL BOLL Transport channel identity		40
- DL DCH Transport channel identity		10
- Logical channel identity		4
RB information to be affected	A5, A6	(UM DCCH for RRC)
- RB identity	,	, 1
BB manning info		•
- Information for each multiplexing option		
 RLC logical channel mapping indicator 		Not Present
- Number of uplink RLC logical channels		1
- Unlink transport channel type		RACH
- Logical channel identity		1
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Set
MAC legical shannel priority		
- MAC logical channel priority		2
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		FACH
Logical channel identity		1
RB information to be affected	A5, A6	(AM DCCH for RRC)
- RB identity		2
- RB mapping info		
- Information for each multiplexing option		
		Net Dresent
- RLC logical channel mapping indicator		NOT Present
 Number of uplink RLC logical channels 		1
 Uplink transport channel type 		RACH
- Logical channel identity		2
- CHOICE BLC size list		– Explicit list
- RLC size index		Reference to 1534.108 clause 6 Parameter
		Set
- MAC logical channel priority		3
- Downlink RLC logical channel info		-
		4
- Number of downlink RLC logical channels		
 Downlink transport channel type 		FACH
 Logical channel identity 		2

RB information to be affected	A5, A6	(AM DCCH for NAS_DT High priority)
- PB identity	,	(*************************************
- ND identity		5
- RB mapping into		
 Information for each multiplexing option 		
 RLC logical channel mapping indicator 		Not Present
- Number of uplink RLC logical channels		1
- Unlink transport channel type		RACH
- Logical channel identity		3
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Set
- MAC logical channel priority		4
Powelink DLC logical channel info		-
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		FACH
- Logical channel identity		3
RB information to be affected	A5 A6	(AM DCCH for NAS_DT Low priority)
	73,70	
- RB Identity		4
- RB mapping info		
 Information for each multiplexing option 		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RI C logical channels		1
- Number of upinik reconcilence		
- Uplink transport channel type		KAUT
- Logical channel identity		4
- CHOICE RLC size list		Explicit list
- RLC size index		Reference to TS34.108 clause 6 Parameter
		Sot
- MAC logical channel priority		5
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
- Downlink transport channel type		FACH
- DL Transport channel identity		1
		4
RB information to be affected	A5, A6	(TM BCCH for RRC)
- RB identity		6
- RB mapping info		
- Information for each multiplexing option		
- Downlink RLC logical channel info		
 Number of downlink RLC logical channels 		1
 Downlink transport channel type 		FACH
- Logical channel identity		5
DR information to be affected	AE AG	
	A5, A0	
- RB Identity		1
- RB mapping info		
 Information for each multiplexing option 		
- Downlink RLC logical channel info		
- Number of downlink PLC logical channels		1
- Number of downlink KLC logical champers		РСЧ
- Downlink transport channel type		
- Logical channel identity		1
Downlink counter synchronisation info		Not Present
UI Transport channel information for all transport	A2 A4	1
channele	, <u>,</u> , , , , , , , , , , , , , , , , ,	
		Not Descent
- PRACH IFCS		Not Present
- CHOICE mode		TDD
 Individual UL CCTrCH information 		
- TECS ID		1
- Shared channel indicator		EALSE
		TALOE
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TECS representation		Addition
- TECS addition information		
		Defende TO24 400 stars 0
- CHUICE CIFC Size		Refer to 1534.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
- CHOICE Subset representation		Allowed transport format combination list
- Allowed Transport Format combination list		Pafer to TS3/ 109 clause 6 Decemptor Set
- Anoweu transport Format combination list	10	Terer to 1004.100 Glause o Parallieter Set
UL I ransport channel information for all transport	A3	

		Not Drocont
		Not Present
- CHOICE mode		TDD
 Individual UL CCTrCH information 		
- TECS ID		1
Shared abannal indicator		
		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TECI Field 1 information		
CHOICE TECS representation		Addition
		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TEC subset		
		Allowed to a set former of a such is ation. But
- CHOICE Subset representation		Allowed transport format combination list
 Allowed Transport Format combination list 		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport	A5 A6	
	710,710	
- PRACH TFCS		
- CHOICE TFCI signalling		Normal
- TECI Field 1 information		
		Addition
- UNUCE IFUS representation		Audition
- TECS addition information		
		Potor to TS24 109 clause 6
- CIFC information		Refer to 1534.108 clause 6 Parameter Set
- CHOICE mode		TDD
- Individual UL CCTrCH information		Not Present
	A.2. A.E.	Not i locolit
	AZ, AS	
- Uplink transport channel type		DCH
- Transport channel identity		1
Deleted III TrCH Information	Δ2	
	72	DOLL
- Uplink transport channel type		DCH
 Transport channel identity 		2
Deleted UI_TrCH Information	A2	
	/	
		DCH
- I ransport channel identity		3
Deleted UL TrCH Information	A3	
- Uplink transport channel type		DCH
Transport shannel identity		6
		0
Added or Decentioured LIL TrCU information		
Added of Reconfigured OL TIGH Information	A2, A3, A4	If TrCH reconfiguration is executed then this
Added of Reconfigured OL TICH Information	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is
Added of Reconligured OL TICH Information	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
Uplink transport channel type	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH
- Uplink transport channel type - UL Transport channel identity	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5
- Uplink transport channel type - UL Transport channel identity - TFS	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5
- Uplink transport channel type - UL Transport channel identity - TFS - CHOICE Transport channel type	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels
- Uplink transport channel type - UL Transport channel identity - TFS - CHOICE Transport channel type - Dynamic Transport format information - Dynamic Transport formation - Dynamic Transport format information -	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TEL number)
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number)
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.)
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Beference to TS04.109 clause 2 Parameter
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Transmission time interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Transmission time interval 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
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 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
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 Uplink transport channel type UL Transport channel identity TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute CRC size 	A2, A3, A4	If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 5 Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set

- SCCPCH TFCS - Individual DL COTCH information - DL TFCS - CFOICE TFCI signaling - TFCS 10 - TFCS identity - TFCS identity - TFCS - CFOICE TFCI signaling - CFCI field 1 Information - CFOICE TFCI signaling - CFCI field 1 Information - CFOICE TFCI signaling - CFCI field 1 Information - CFOICE TFCI signaling - CFCI Field 1 Information - CFOICE TFCI signaling - CFCI Field 1 Information - CFOICE TFCI signaling - CFCI Field 1 Information - CFOICE TFCI signaling - CFOICE Trcs signaling - CFOICE Trcs signaling info - CFOIC		i	L
- CHOICE mode - Individual DL CCTCH information - DL TFCS Identity - TFCS Identity - TFCS Identity - TFCS ID - Shared Channel Indicator - DL TFCS - CHOICE DL parameters - DL TFCS - CHOICE TFC is see - CFTC information - CHOICE TFC is see - CFTC information - CHOICE TFC is see - CFTC information - CHOICE TFC Size - CTFC information - TFCS addition information - CHOICE TFCS - CHOICE TFCS - CHOICE TFCS see - CTFC information - TFCS information - TFCS information - CHOICE TFCS see - CTFC information - CHOICE TrCN see - CTFC information - CHOICE TrCN see - CTFC information - CHOICE TrCN see - CTFC information - CTFC	- SCCPCH TFCS		Not Present
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- DL TFCS Identity - Fice Identity - Fice Identity - Shared Channel Indicator - CHOICE TFCI signaling - TFCS - CHOICE TFCI signaling - TFCE information - CHOICE TFCI signaling - TFCI Field Transport channel information - CHOICE TFCS - CHOICE TFCS Stepsentiation - TFCS addition information - TFCS addition information - CHOICE TFCS - CHOICE TFCS - CHOICE TFCS - CHOICE TFCS Stepsentiation - Transport channel type - Transport channel type - Transport channel type - Transport channel type - CHOICE TFCS stepsent information - Transport channel type - CHOICE Transport channel type - CHOICE Transport tokanel th	 Individual DL CCTrCH information 		
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- DL Transport channel identity 10 - CHOICE DL parameters Independent - TFS - CHOICE Transport channel type - Dynamic Transport format information Chis IE is repeated for TFI number) - RLC Size Reference to TS34.108 clause 6 Parameter Set - Number of TBs and TTI List (This IE is repeated for TFI number.) - Transmission Time Interval Not Present - Number of Transport blocks Reference to TS34.108 clause 6 Parameter Set - CHOICE Logical Channel list ALL - Semi-static Transport Format information Reference to TS34.108 clause 6 Parameter Set - Type of channel coding Reference to TS34.108 clause 6 Parameter Set - Coding Rate Reference to TS34.108 clause 6 Parameter Set - Rate matching attribute Reference to TS34.108 clause 6 Parameter Set - CRC size Reference to TS34.108 clause 6 Parameter Set - DCH quality target -6.3 - DCH quality target -6.3 - BLER Quality value -6.3 - Transparent mode signalling info Not Present	- Downlink transport channel type - Transport channel identity Deleted DL TrCH Information - Downlink transport channel type - Transport channel identity Added or Reconfigured DL TrCH information	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.).
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- Rate matching attribute - Reference to TS34.108 clause 6 Parameter Set - CRC size - DCH quality target - BLER Quality value - Transparent mode signalling info	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Transmission time interval 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
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- CRC size - DCH quality target - BLER Quality value - Transparent mode signalling info - CRC size - DCH quality target - BLER Quality value - 6.3 - Transparent mode signalling info - CRC size -	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- CRC size - DCH quality target - BLER Quality value - Transparent mode signalling info	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter
- DCH quality target - BLER Quality value - Transparent mode signalling info	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
- DCH quality target - BLER Quality value - Transparent mode signalling info - Transparent mode signalling info - Contemportation - 6.3 - Not Present	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute CRC size 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter
- BLER Quality value -6.3 - Transparent mode signalling info Not Present	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval CHOICE Logical Channel list Center Coding Rate Rate matching attribute CRC size 	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
Transparent mode signalling info Not Present	 Downlink transport channel type Transport channel identity Deleted DL TrCH Information Downlink transport channel type Transport channel identity Added or Reconfigured DL TrCH information Downlink transport channel type DL Transport channel identity CHOICE DL parameters TFS CHOICE Transport channel type Dynamic Transport format information RLC Size Number of TBs and TTI List Transmission Time Interval Number of Transport blocks CHOICE Logical Channel list Semi-static Transport Format information Transmission time interval Type of channel coding Coding Rate Rate matching attribute CRC size DCH quality target	A2 A2, A3, A4	DCH 7 DCH 8 If TrCH reconfiguration is executed then this is needed(e.g. The rate of SRB for DCCH is changed.). DCH 10 Independent Dedicated transport channels (This IE is repeated for TFI number) Reference to TS34.108 clause 6 Parameter Set (This IE is repeated for TFI number.) Not Present Reference to TS34.108 clause 6 Parameter Set ALL Reference to TS34.108 clause 6 Parameter Set Reference to TS34.108 clause 6 Parameter Set
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Erequency info		
- CHOICE mode		ססד
- LIARECN (Nt)		Reference to TS3/ 108 clause 6 Parameter
		Sot
Maximum allowed UL 1X power		30dBm
CHOICE channel requirement	A2, A2, A4	Uplink DPCH info
-Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Reference to TS34 108
- CHOICE LIL OL PC info		Individually signalled
		1 29 Mana TDD
- TPC step size		
- Primary CCPCH Tx Power		Reference to TS34.108
- CHOICE mode		TDD
 Uplink Timing Advance Control 		Not Present
- UL CCTrCH List		
- TECS ID		1
- Time info		
		(256+CENL (CENImod 8 + 8))MOD256
- Activation time		(250+CFN-(CFNIII00.6+6))IVIOD250
- Duration		Infinite
- Common timeslot info		
- 2 nd interleaving mode		Reference to TS34.108 clause 6.
- TFCI coding		Reference to TS34.108 clause 6.
- Repetition Period		1
- Repetition Length		Empty
- Repetition Length		Empty
- Opink DPCH limesiols and codes		
- First timeslot information		
- CHOICE TDD option		1.28 Mcps
- Timeslot number		The number of an uplink timeslot that has
		unassigned codes.
- TECL existence		TRUE
- Midamble shift and hurst type		INOE
		1.00 Mana
		1.28 MCps
- Midamble Allocation Mode		Default
 Midamble configuration 		16
- CHOICE TDD option		1.28 Mcps
- Modulation		OPSK
- SS-TPC Symbols		1
First timeslet code list		Dependent (1.2) for each channelization and
		thet is assigned in the stat
		that is assigned in the slot.
- Channelisation Code		(i/SF) where i denotes the code that is being
		assigned and SF is specified in TS34.108
		clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on the
		number of resources specified in TS34 108
		number of resources specified in 1004.100
		section 6 and whether they are assigned in
		more than one timeslot.
CHOICE Mode		TDD
Downlink information common for all radio links	A2, A3, A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
CEN torgetSEN frome offect		Net Present
		NOLFIESEN
- Downlink DPCH power control information		
-CHOICE mode		טטו
-TPC Step Size		1
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		TRUE
- Default DPCH Offset Value		Not Present
Deputible information for each realist list		
Downlink information for each radio link list	AZ, A3, A4	
 Downlink information for each radio links 		
- CHOICE mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps
- Cell parameters ID		
- Block STTD indicator	1	I FALSE

- Downlink DPCH info for each RL		
- CHUICE mode		לטו
- TECS ID		1
- Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
- Duration		Infinite
- Common timeslot info		
- 2 nd Interleaving mode		Reference to TS34.108 clause 6
-TFCI coding		Reference to TS34.108 clause 6
- Puncturing limit		Reference to TS34.108 clause 6
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
- Individual timeslot info		
- Timeslot number		The number of a downlink timeslot that has
TECI evietence		unassigned codes.
- IFCI existence Midamble shift and burst type		IRUE
- CHOICE TDD ontion		1 28 Mcns
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
 First timeslot channelisation codes 		
 First channelisation code 		(i/SF) where i is the lowest numbered code
		assigned in the timeslot and SF is specified in
		TS34.108 clause 6 arameter Set.
- Last channelisation code		(j/SF) where j is the highest numbered code
		assigned in the timeslot.
- Bitmap		Bitmap of the codes assigned in the timesiot.
- CHOICE more limesiols		number of resources required by the
		TS3/ 108 clause 6 Parameter Set and
		whether they are assigned using more than
		one timeslot.
- Secondary CCPCH info		Not Present
Downlink information common for all radio links	A5, A6	
- Downlink information for each radio link		
- Choice mode		TDD
- Primary CCPCH info		
- CHOICE mode		TDD
- CHOICE IDD option		1.28 Mcps IDD
- ISID indicator		
- Cell parameters ID Blook STTD indicator		
- DIVUK STID IIIUIUUUUU		Not present
- SCCPCH information for FACH		Not present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
Initial UE identity	Set to the UE's IMSI (GSM-MAP) or TMSI.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
	Value/Terriark
Message Type	Defense to TOO 4 400 slaves 0 Demonstra Oct
	Reference to 1534.108 clause 6 Parameter Set
RRC transaction identifier	Arbitrarily select a integer between 0 and 3
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
RRC state indicator	
LITRAN DRX cycle length coefficient	5 (2 to 12)
Canability undets requirement	5 (2 10 12)
- UE radio access FDD capability update	FALSE
requirement	
 UE radio access 3.84Mcps TDD capability update 	FALSE
requirement	
- UE radio access 1.28Mcps TDD capability update	FALSE
requirement	
- System specific capability update requirement	Not Present
Circulture DD information to actum	
Signalling RB information to setup	
- RB identity	1
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX DAT	4
- Timer MRW	100
MoxMD\/	1
- Maxivir W	
	UM RLC
- RB mapping info	
 Information for each multiplexing option 	
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- CHOICE RI C size list	Explicit list
	Potoronco to TS24 108 clauso 6 Parameter Set
MAC la sizel abannal priority	
- MAC logical channel phonty	2
- Downlink RLC logical channel info	
 Number of downlink RLC logical channels 	1
 Downlink transport channel type 	FACH
 Logical channel identity 	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RI C info type	RI C info
- CHOICE Unlink RI C mode	AMRIC
- Transmission RLC discard	
SDU diseard made	Max DAT retransmissions
	4
- Timer_MRW	100
- MaxMRW	4
 Transmission window size 	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer poll prohibit	200
- Timer noll	200
	200
- FUILODU	
- Last transmission PDU poli	
- Last retransmission PDU poll	IKUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200

- Timer EPC	200
- Missing PDI Lindicator	TRUE
- Missing i Do Indicator	INOL
- RB mapping into	
 Information for each multiplexing option 	
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- I Inlink transport channel type	RACH
Logical channel identity	2
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
 MAC logical channel priority 	3
- Downlink RLC logical channel info	
- Number of downlink PLC logical channels	1
- Number of downlink NEC logical chamlers	
- Downlink transport channel type	FACH
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RI C info type	RLC info
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer MRW	100
- MaxMR\//	Λ
	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer poll probibit	200
Timer_poll_prohibit	200
- Timer_poli	200
- Poll_SDU	1
 Last transmission PDU poll 	TRUE
 Last retransmission PDU poll 	TRUE
- Poll Windows	99
CHOICE Downlink PLC mode	
- In-sequence delivery	IRUE
- Receiving window size	8
 Downlink RLC status info 	
- Timer status prohibit	200
- Timer FPC	200
Missing DDL indicator	
- Missing PDU Indicator	IRUE
- RB mapping info	
 Information for each multiplexing option 	
 RLC logical channel mapping indicator 	Not Present
- Number of uplink RI C logical channels	1
- Unlink transport channel type	PACH
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
 MAC logical channel priority 	4
- Downlink RI C logical channel info	
- Number of downlink RLC logical channels	1
- Number of downlink KEC logical champers	
- Downlink transport channel type	FACH
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RI C info type	RLC info
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer MRW	100
- MaxMRW	4
- Transmission window size	8
	0 500
	000
- Max_RST	4
- Polling info	
—	200

- Timer_poll	200
- Poll SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll Windows	99
- CHOICE Downlink RI C mode	AMRIC
- In-sequence delivery	TRUE
Posoiving window size	
- Receiving window size	0
- DOWININK RLC Status Inio	200
	200
- Timer_EPC	200
- Missing PDU indicator	IRUE
- RB mapping info	
 Information for each multiplexing option 	
 RLC logical channel mapping indicator 	Not Present
 Number of uplink RLC logical channels 	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- CHOICE RLC size list	Explicit list
- RIC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	5
- Downlink RI C logical channel info	5
Number of downlink PLC logical channels	1
- Number of downlink RLC logical channels	
- Downlink transport channel type	
	4
UL Transport channel information for all transport	
channels	
- TFC subset	(This IE is repeated for TFC number.)
 Allowed Transport Format combination 	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108
	clause 6 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	15
- TFS	
- CHOICE Transport channel type	Common transport channels
Dunamia Transport format information	(This IF is reported for TFL number)
	(This IE is repeated for TFT humber)
- RLC Size	(This IF is non-set of far TFL surplus of Parameter Set
- Number of TBS and TTT List	(This IE is repeated for TFT number.)
- Number of Transport blocks	Reference to 1S34.108 clause 6 Parameter Set
- CHOICE mode	TDD
 CHOICE Logical Channel List 	ALL
 Semi-static Transport Format information 	
 Transmission time interval 	Reference to TS34.108 clause 6 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6 Parameter Set
- CRC size	Reference to TS34.108 clause 6 Parameter Set
DL Transport channel information common for all	
transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
	Normal
TECL Field 1 information	Norman
	Ormalata
- CHOICE CIFC representation	Complete
- IFCS complete recontigure information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all
	combinations of CTFC from clause 6.
- CTFC information	Refer to TS34.108 clause 6 Parameter Set
 Power offset information 	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6 Parameter Set
Maximum allowed UI TX power	30dBm
CHOICE channel requirement	Not Present

Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
 Downlink information for each radio link 	
- Choice mode	TDD
- Primary CPICH info	Set to the default value of cell 1.
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
 Downlink DPCH info for each RL 	Not present
- Secondary CCPCH info	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- Secondary CPICH info	Not Present
 Secondary scrambling code 	Not Present
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6 Parameter Set
- Code number	SF-1(SF is reference to clause 6 Parameter Set)
 Pilot symbol existence 	FALSE
- TFCI existence	TRUE
 Fixed or Flexible position 	Flexible
- Timing offset	0
 References to system information blocks 	Not present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Identification of received message	Not Present
- Received message type	
- RRC transaction identifier	
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Value will be checked

Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type		
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IF is dependent on IXIT
integrity check into		statements in TS 3/ 123-2 If integrity
		protection is indicated to be active this IF is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs
		are omitted
- message authentication code		SS calculates the value of MAC-I for this
- message admentication code		message and writes to this IF
- RRC message sequence number		SS provides the value of this IE from its
titte medeage sequence nameer		internal counter
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CEN-(CEN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1 A2 A3	CELL DCH
	A4	
RRC State indicator	A5 A6	CELL DCH should this be CELL FACH 222
	/10, /10	because it indicates the state that is to be
		entered.
UTRAN DRX cycle length coefficient		Not Present
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport	A1, A2, A3,	
channels	A4	
- PRACH TECS		Not Present
- CHOICE mode		TDD
- Individual UL CCTrCH information		
- TFCS ID		1
- Shared channel indicator		FALSE
- UL TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Addition
- TFCS addition information		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- TFC subset		
 CHOICE Subset representation 		Allowed transport format combination list
 Allowed Transport Format combination list 		Refer to TS34.108 clause 6 Parameter Set
UL Transport channel information for all transport	A5, A6	
channels		
- PRACH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
 CHOICE TFCS representation 		Addition
 TFCS addition information 		
- CHOICE CTFC Size		Refer to TS34.108 clause 6
- CTFC information		Refer to TS34.108 clause 6 Parameter Set
- CHOICE mode		TDD
 Individual UL CCTrCH information 		Not Present
Added or Reconfigured UL TrCH information	A1, A2, A3,	
	A4	
- Uplink transport channel type		DCH
- UL Transport channel identity		5
- IFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to IS34.108 clause 6 Parameter
- Number of TBs and TTLList		(Inis IE is repeated for IFI number.)
- I ransmission Time Interval	1	NOT Present

- Number of Transport blocks		Reference to TS34.108 clause 6 Parameter
		Set
- CHOICE Logical Channel List		ALL
- Semi-static Transport Format information		
		Poteranae to TS24 109 clause 6 Decemptor
		Cet
T ()		
- Type of channel coding		Reference to 1S34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
 Rate matching attribute 		Reference to TS34.108 clause 6 Parameter
·		Set
- CRC size		Reference to TS34 108 clause 6 Parameter
		Set
Added or Reconfigured LIL TrCH information	Δ <i>Δ</i>	
	A4	DOLL
- Uplink transport channel type		DCH
 UL Transport channel identity 		1
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IF is repeated for TFL number)
		Poteroneo to TS34 108 clauso 6 Parameter
- KLO SIZE		Cet
		Set
- Number of TBs and TTT List		(This IE is repeated for TFI number.)
 Transmission Time Interval 		Not Present
 Number of Transport blocks 		Reference to TS34.108 clause 6 Parameter
		Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
Transmission time interval		Poterance to TS24 108 clause 6 Parameter
T ()		
- Type of channel coding		Reference to 1S34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter
0		Set
- CRC size		Reference to TS34 108 clause 6 Parameter
0100 3120		Sat
DI Transport abannal information common for all	A1 A2 A2	601
	AT, AZ, AS,	
transport channel	A4	
- SCCPCH IFCS		Not Present
- CHOICE mode		TDD
 Individual DL CCTrCH information 		
- DL TFCS Identity		
- TECS ID		1
- Shared Channel Indicator		FALSE
		TALOE
- CHOICE DL parameters		Independent
- DL TFCS		
 CHOICE TFCI signalling 		Normal
- TFCI Field 1 Information		
- CHOICE TFCI representation		Addition
- TECS addition information		
- CHOICE CTEC size		Pefer to TS3/ 108 clause 6
CTEC information		Refer to TS34.100 clause 0
- CIFC Information		Refer to 1534.106 clause 6 Parameter Set
UL I ransport channel information common for all	A5, A6	
transport channel		
- SCCPCH TFCS		Not Present
- CHOICE mode		TDD
 Individual DL CCTrCH information 		Not Present
Added or Reconfigured DL TrCH information	A1, A2	
- Downlink transport channel type	· · · , / ⁄ ـ	рсн
DI Transport channel identity		10
		Come es III
- CHOICE DL parameters		Same as UL
 Uplink transport channel type 		DCH
- UL TrCH Identity		5
 DCH quality target 		
- BLER Quality value		-6.3

- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A3 A4	
Downlink transport channel type	7,0,7 , 7	
DL Transport channel identity		10
- DL Transport channel identity		10 In dan an dan t
- CHOICE DL parameters		Independent
TEO		
- IFS		De diaste d'une serve de serve de
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TFI number)
- RLC Size		Reference to TS34.108 clause 6 Parameter
		Set
 Number of TBs and TTI List 		(This IE is repeated for TFI number.)
 Transmission Time Interval 		Not Present
 Number of Transport blocks 		Reference to TS34.108 clause 6 Parameter
·		Set
- CHOICE Logical Channel list		ALL
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34 108 clause 6 Parameter
		Sot
- Type of channel coding		Peterence to TS34 108 clause 6 Parameter
- Type of charmer county		Cot
Or dia a Data		Defense to TOO 4 400 slaves 0 Demonster
- Coding Rate		Reference to 1534.108 clause 6 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
 DCH quality target 		
- BLER Quality value		-6.3
 Transparent mode signalling info 		Not Present
Added or Reconfigured DL TrCH information	A4	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Independent
- TES		independent
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		(This IE is repeated for TEL number)
		Peteronae to TS24 108 clause 6 December
- RLC 5/20		Cot
Number of TDe and TTLL ist		(This IF is repeated for TFI number)
- Number of TBS and TTT List		(This IE is repeated for TFT humber.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to 1S34.108 clause 6 Parameter
		Set
- CHOICE Logical Channel list		ALL
 Semi-static Transport Format information 		
 Transmission time interval 		Reference to TS34.108 clause 6 Parameter
		Set
 Type of channel coding 		Reference to TS34.108 clause 6 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6 Parameter
5		Set
- CRC size		Reference to TS34.108 clause 6 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6 3
- Transparent mode signalling info		Not Present
Frequency info		Not Floorit
- CHOICE mode		חחד
		Poteroneo to TS24 109 deuro 6
		NEICHERU I 334. TUO CIAUSE O
CHOICE channel requirement	A1, A2, A3,	Uplink DPCH into
	A4	
-Uplink DPCH power control info		
- CHOICE mode		TDD
- UL Target SIR		Refrence to TS34.108
- CHOICE UL OL PC info		Individually signalled

Release 4

	1	
- CHOICE TDD option		1.28 Mcps TDD
- TPC step size		1
Drimony CCDCH Ty Dowor		Deference to TC24 109
- CHOICE mode		מטו
 Uplink Timing Advance Control 		Not Present
		4
- 1FC3 ID		l
- Time info		
- Activation time		(256+CEN-(CENmod 8 + 8))mod 256
Duration		Infinito
		mmme
- Common timeslot info		
- 2 nd interleaving mode		Reference to TS34.108 clause 6 Parameter
Ũ		Set
		Deference to TC24 400 eleves C Deverenter
- TFCI coding		Reference to 1534.106 clause 6 Parameter
		Set
- Repetition Period		1
Popotition Longth		Empty
		Empty
 Uplink DPCH timeslots and codes 		
 First timeslot information 		
- CHOICE TDD option		1.28 Mons
- Timeslot number		The number of an uplink timeslot that has
		unassigned codes.
- TECI existence		TRUF
Midomble abilities and human times		
- Midamble shift and burst type		
- CHOICE TDD option		1.28 Mcps
- Midamble Allocation Mode		Default
Midamble configuration		16
		10
- CHOICE TDD option		1.28 Mcps
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot code list		Repeated (1,2) for each code that is assigned
		within the timeslot.
- Channelisation Code		(i/SF) where i denotes the number of the
Chambelloadion Codo		
		assigned code and SF is specified in
		TS34.108 clause 6 Parameter Set.
- CHOICE more timeslots		The presence of this IE depends on number
		of recourses specified in TS24 108 section 6
		of resources specified in 1334.100 section of
		and whether they are assigned in more than
		one slot.
CHOICE Mode		חחד
	A4 A0 A0	TDD
Downlink information common for all radio links	A1, A2, A3,	
	A4	
- Downlink DPCH info common for all RI		
Timing indicator		Maintain
		Maman
 CFN-targetSFN frame offset 		Not Present
 Downlink DPCH power control information 		
-CHOICE mode		חחד
- IPG Step Size		
- CHOICE mode		TDD
- CHOICE mode		TDD
		1.00 Mono
- TSTD indicator		TRUE
 Default DPCH Offset Value 		0
Downlink information for each radio link list		
	A_1, A_2, A_3, A_4	
	A4	
 Downlink information for each radio links 		
- CHOICE mode		TDD
Drimony CCDCU info		. = =
- CHOICE mode		טטו
- CHOICE TDD option		1.28 Mcps
- TSTD indicator		
- Cell parameters ID		U
 Block STTD indicator 		
Downlink DPCH info for each Pl		FALSE
		FALSE
- CHOICE mode		FALSE
- CHOICE mode		FALSE TDD
- CHOICE mode - DL CCTrCH List		FALSE TDD
- CHOICE mode - DL CCTrCH List - TFCS ID		FALSE TDD 1
- CHOICE mode - DL CCTrCH List - TFCS ID - Activation time		FALSE TDD 1 (256+CEN-(CEN MOD 8 + 8))MOD 256

- Duration		Infinite
- Common timeslot info		
- 2 nd Interleaving mode		Reference to TS34.108 clause 6
-TFCI coding		Reference to TS34.108 clause 6
- Puncturing limit		Reference to TS34.108 clause 6
- Repetition period		1
- Repetition length		Empty
- Downlink DPCH timeslots and codes		
 Individual timeslot info 		
- Timeslot number		The number of a downlink timeslot that has
		unassigned codes.
- TFCI existence		TRUE
 Midamble shift and burst type 		
- CHOICE TDD option		1.28 Mcps
- Midamble allocation mode		Default
- Midamble configuration		16
- CHOICE TDD option		1.28 Mcps TDD
- Modulation		QPSK
- SS-TPC Symbols		1
- First timeslot channelisation codes		
- First channelisation code		(i/SF) where i is the lowest numbered code
		assigned within the slot and SF is specified in
		the TS34.108 clause 6 Parameter Set
 Last channelisation code 		(j/SF) where j is the highest numbered code
		assigned in the timeslot.
- Bitmap		Bitmap of codes assigned in the timeslot.
- CHOICE more timeslots		The presence of this IE depends upon the
		number of resources required by the
		TS34.108 clause 6 Parameter Set and
		whether thay are allocated in more than one
		slot.
- Secondary CCPCH info		Not Present
Downlink information for each radio link list	A5, A6	
- Downlink information for each radio link		
- Choice mode		TDD
- Primary CCPCH info		Set to the default value of cell 1.
- CHOICE mode		TDD
- CHOICE TDD option		1.28 Mcps TDD
- TSTD indicator		TRUE
- Cell parameters ID		0
- Block STTD indicator		TRUE
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in
	the downlink TRANSPORT CHANNEL
	RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IES as stated below. Else, this IE and the sub-IES shall
- Message authentication code	I his IE is checked to see if it is present. The value is
	This IF is checked to one if it is present. The value is
- RRC Message sequence number	This IE is checked to see if it is present. The value is
Liplink integrity protection activation info	Net ebecked
- CHOICE TDD option	1 28 Mons
COLINT-C activation time	The presence of this IF depends on the following 2
	factors: (a) There exists RB(s) manned to RI C-TM and
	(b) UE is transiting to CEU. DCH state after the
	reconfiguration procedure. Else this IE is absent
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of TRANSPORT FORMAT COMBINATION CONTROL message: AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.
CHOICE mode	TDD
- TFCS Id	1
- Shared Channel Indicator	FALSE
DPCH TFCS in Uplink	
- Minimu allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Value/remark					
Message Type						
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3					
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.					
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.					
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.					
Capability update requirement						
- UE radio access FDD capability update requirement	FALSE					
 UE radio access 3.84 Mcps TDD capability update requirement 	FALSE					
 UE radio access 1.28 Mcps TDD capability update requirement 	TRUE					
- System specific capability update requirement list	UE only supports 1 system					
 System specific capability update requirement 	GSM					

Contents of UE CAPABILITY INFORMATION message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
- ICS Version	
- PDCP Capability	
- RLC Capability	
- Transport channel capability	
- RF Capability	
 Physical channel capability 	
 UE multi-mode/multi-RAT capability 	
 Security capability 	
 UE positioning capability 	
- Measurement capability	
UE system specific capability	
-Inter-RAT UE radio access capability	Choice and value will be checked. UE must include the classmark information for the supported RAT

Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
 RRC Message sequence number 	SS provides the value of this IE, from its internal counter.

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements
	active this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub IEs shall be
	absent.
 Message authentication code 	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
 RRC Message sequence number 	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
 message authentication code 	SS calculates the value of MAC-I for this message and
	writes to this IE.
 RRC message sequence number 	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

Annex B (informative): Core specification versions to which test cases relate

The table B.1 lists for each clause of the present document the related core specification version on which the test cases were based. Where the test cases have been partially updated towards the next released version, but this work has not completed yet, each change request considered is listed in the final column.

Clause number	Clause heading	Related core specifications	Current R99 version supported	Current Rel-4 version supported	Current change requests taken into account
6	Idle mode operations	25.304	3.7.0		
		23.122	3.7.0		
		31.102	3.6.0		
		25.133	3.6.0		
		25.123	3.6.0		
		TS 03.22	8.5.0		
		TS 05.08	8.10.0		
7.1	MAC	25.321	3.8.0		
7.2	RLC	25.322	3.7.0		
7.3	PDCP	25.323	3.5.0		
7.4	BMC	25.324	3.4.0		
8	Radio Resource Control	25.331	3.7.0		
	(RRC)	04.18	9.0.0		
9	Elementary procedures of mobility management	24.008	3.8.0		
10	Circuit Switched Call Control (CC)	24.008	3.7.0		
11	Session Management Procedures	24.008	3.8.0		
12	Elementary procedure for Packet Switched Mobility Management	24.008	3.8.0		
13	General Tests	24.008	3.8.0		
14	Radio Bearer Services	34.108	3.5.0		
15	Supplementary Services	N/A			
16	Short message service	23.040	3.5.0		
	(SMS)	23.041	3.4.0		
		24.011	3.6.0		
17	User Equipment features (MMI, VHE, MexE, SAT)				

Table B.1

Annex C (informative): Change history

Meeting	Doc-1st-	CR	Rev	Subject	Cat	Version-	Version	Doc-2nd-
-1st-	Level					Current	-New	Level
Level								
TP-08				Approval of the specification		2.0.0	3.0.0	
TP-09	TP-000135	001		Idle mode test cases	F	300	310	T1-000165
TP-09	TP-000135	002		Section 8 RRC Tests: RI CSize	C	300	310	T1-000169
TP-00	TP-000135	002		Section 8, RRC Tests: HEN	C C	3.0.0	310	T1-000105
TF-09	TP 000135	003		Section 9, RRC Tests, FITN	C	3.0.0	3.1.0	T1-000170
TP-09	TP-000135	004	-	Section 6, RRC Tests, RLCPalam		3.0.0	3.1.0	T1-000171
TP-09	TP-000135	005		Section 8, RRC Tests: RBIdentity	C	3.0.0	3.1.0	11-000172
TP-09	TP-000135	006		Section 8, RRC Tests: TrCHParam	C	3.0.0	3.1.0	11-000173
TP-09	TP-000135	007		Section 8, RRC Tests: UECapability	С	3.0.0	3.1.0	T1-000174
TP-09	TP-000135	800		Section 8, RRC Tests: RBMapping	С	3.0.0	3.1.0	T1-000175
TP-09	TP-000135	009		Section 8, RRC Tests: PagingCause	С	3.0.0	3.1.0	T1-000176
TP-09	TP-000135	010		Section 8, RRC Tests: RRCConnRelease-TM	В	3.0.0	3.1.0	T1-000177
TP-09	TP-000135	011		Section 8, RRC Tests: SignallingRelease	В	3.0.0	3.1.0	T1-000178
TP-09	TP-000135	012		Section 8 BRC Tests: CipheringAndIntegrity	C	300	310	T1-000179
TP-00	TP-000135	012		Section 8 RPC Tests: Countercheck, rev	B	300	310	T1-000180
TP 00	TD 000135	013		Section 9, RRC Tests: Countercheck_rev	C	2.0.0	210	T1-000100
TP-09	TP-000135	014		Section 6, RRC Tests, RECITIO		3.0.0	3.1.0	T1-000101
TP-09	TP-000135	015		Section 8, RRC Tests: Compressedivide		3.0.0	3.1.0	T1-000182
TP-09	TP-000135	016		Section 8, RRC Tests: SIB	F	3.0.0	3.1.0	11-000183
TP-09	TP-000135	017		Section 8, RRC Tests: PhyCH	D	3.0.0	3.1.0	T1-000184
TP-09	TP-000135	018		Section 8, RRC Tests: Measurement	С	3.0.0	3.1.0	T1-000185
TP-09	TP-000135	019		Section 8, RRC Tests: FailureCases	С	3.0.0	3.1.0	T1-000186
TP-09	TP-000135	020		Section 8, RRC Tests: TFCS	С	3.0.0	3.1.0	T1-000187
TP-09	TP-000135	021		Section 8, RRC Tests: DPCHFrameOffset	С	3.0.0	3.1.0	T1-000188
TP-09	TP-000135	022		Section 8, RRC Tests: ReEstablishmentTimer	C	3.0.0	3.1.0	T1-000189
TP-09	TP-000135	023		Section 8 RRC Tests: InterFrequencyHardHandOver	F	300	310	T1-000206
TP-00	TP-000135	024		clause 12.4.1.5 "Routing area undating / abnormal cases /	' C	300	310	T1-000200
11-03	11-000133	024		ciause 12.4.1.5 Routing area updating / abhornai cases /	C	5.0.0	5.1.0	11-000211
		005			0	2.0.0	240	T4 000000
TP-09	TP-000135	025		SM test cases		3.0.0	3.1.0	T1-000208
TP-09	TP-000135	026			F -	3.0.0	3.1.0	T1-000207
TP-09	TP-000135	027		Update of radio bearer test cases (aligned to GSMA ISG	F	3.0.0	3.1.0	T1-000213
				version 1.3)				
TP-09	TP-000135	028		MAC tests	В	3.0.0	3.1.0	T1-000218
TP-09	TP-000135	029		PDCP tests	В	3.0.0	3.1.0	T1-000166
TP-09	TP-000135	030		BMC tests	В	3.0.0	3.1.0	T1-000167
TP-09	TP-000135	031		RRC updates	F	3.0.0	3.1.0	T1-000168
TP-09	TP-000135	032		clause 12.6.1.2 "Authentication rejected"	F	3.0.0	3.1.0	T1-000210
TP-09	TP-000135	033		clause 12.6 "PS authentication and ciphering"	C.	300	310	T1-000209
TP-10	TP-000218	034		Application of integrity mode protection to signalling	F	310	320	T1-000200
11-10	11-000210	034		message by default	'	5.1.0	5.2.0	11-000237
TD 10	TD 000040	0.25		New teast asses for CC interputer handouer	D	210	220	T1 000200
TP-10	TP-000218	035		New teset cases for CS intersystem handover		3.1.0	3.2.0	T1-000300
TP-10	TP-000218	036		CR to 34.123-1, Annex B, Mapping of test cases to core	D	3.1.0	3.2.0	11-000319
				specification versions	-			T / 000000
TP-10	TP-000218	037		Application of ciphering during conformance testing and	С	3.1.0	3.2.0	T1-000286
				changes to integrity mode protection related messages				
TP-10	TP-000218	038		Idle Mode test cases in chapter 6	F	3.1.0	3.2.0	T1-000288
TP-10	TP-000218	039		Update to RLC test cases	F	3.1.0	3.2.0	T1-000301
TP-10	TP-000218	040		Technical Corrections to RRC test cases in clause 8	F	3.1.0	3.2.0	T1-000292
TP-10	TP-000218	041		Updates to clause 8 and Annex A due to RAN2 core	С	3.1.0	3.2.0	T1-000293
				specifications modifications				
TP-10	TP-000218	042		Editorial modification for CC test cases (Clause 10)	D	3.1.0	3.2.0	T1-000289
TP-10	TP-000218	043		Lindate of radio bearer test cases	F	310	320	T1-000290
TP-10	TP-000218	040		Update of Session Management test cases	B	310	320	T1-000200
TD 10	TD 000210	044		Modification to the "Authentication rejected by the LIF" test		210	3.2.0	T1-000230
TP-10	1P-000218	045			г	3.1.0	3.2.0	11-000308
TD 40	TD 000040	0.40			_	0.1.0	0.0.0	T4 000000
TP-10	TP-000218	046		Update to 16. SMS test specification	F	3.1.0	3.2.0	11-000309
TP-10	TP-000218	047		Correction to MM tests	D	3.1.0	3.2.0	T1-000310
TP-11	TP-010021	048		Idle mode test cases	F	3.2.0	3.3.0	T1-010076
TP-11	TP-010021	049		Updates to clause 8 of TS 34.123-1 version 3.2.0	F	3.2.0	3.3.0	T1-010106
TP-11	TP-010021	050		Update to GMM test case.	F	3.2.0	3.3.0	T1-010086
TP-11	TP-010021	051	1	Update to 16. SMS test specification	D	3.2.0	3.3.0	T1-010090
TP-11	TP-010021	052	1	Annex B: Update of versions of core specifications	F	3.2.0	3.3.0	T1-010091
TP-12	TP-010121	053	1	Idle mode tests	F	3.3.0	3.4.0	T1-010167
TP_12	TP-010121	054	<u> </u>	Clause 7.2: Undate of RLC tests to 25.322 v3.5.0	F	330	340	T1_010170
TD 12	TD 010121	054		Corrections to Clouse 7.2: PLC test accoundates		220	240	T1 010170
		055		Corrections to Clause 7.2. KLC test case updates		3.3.0	3.4.0	T1-0101/1
TP-12	TP-010121	056		Corrections to clause 7.3 PDCP	F	3.3.0	3.4.0	11-010173

Meeting -1st- Level	Doc-1st- Level	CR	Rev	Subject	Cat	Version- Current	Version -New	Doc-2nd- Level
TP-12	TP-010121	057		Corrections to clause 7.4 BMC	F	3.3.0	3.4.0	T1-010174
TP-12	TP-010121	058		7.1 Update to MAC test cases	F	3.3.0	3.4.0	T1-010175
TP-12	TP-010121	059		Modifications to the functional testing of CPCH related UE test cases	С	3.3.0	3.4.0	T1-010176
TP-12	TP-010121	060		Transmission RLC discard	F	3.3.0	3.4.0	T1-010178
TP-12	TP-010121	061		Updates to RRC test case	F	3.3.0	3.4.0	T1-010179
TP-12	TP-010121	062		Deletion of intersystem handover tests GERAN to UTRAN	F	3.3.0	3.4.0	T1-010181
TP-12	TP-010121	063		Corrections to CC test cases	F	3.3.0	3.4.0	T1-010183
TP-12	TP-010121	064		Corrections to Emergency call test cases	F	3.3.0	3.4.0	T1-010184
TP-12	TP-010121	065		Corrections to test of autocalling restrictions	F	3.3.0	3.4.0	T1-010185
TP-12	TP-010121	066		Corrections to call re-establishment tests in CC	F	3.3.0	3.4.0	T1-010187
TP-12	TP-010121	067		MM test case update	F	3.3.0	3.4.0	T1-010189
TP-12	TP-010121	068		CR to 34.123-1	F	3.3.0	3.4.0	T1-010193
TP-12	TP-010121	069		SMS Update	F	3.3.0	3.4.0	T1-010194
TP-12	TP-010121	070		SMS test specification	F	3.3.0	3.4.0	T1-010196
TP-12	TP-010121	071		Update to GMM test cases	F	3.3.0	3.4.0	T1-010235
TP-12	TP-010121	072		GMM service request test cases	F	3.3.0	3.4.0	T1-010236
TP-12	TP-010121	073		GMM authentication reject test cases	F	3.3.0	3.4.0	T1-010237
TP-12	TP-010121	074		Modifications to Clause 12 (GMM)	F	3.3.0	3.4.0	11-010202
TP-12	TP-010121	075		specs	F	3.3.0	3.4.0	11-010203
TP-12	TP-010121	076		Procedure and Expected Sequence Corrections to 11.1.2.	F	3.3.0	3.4.0	T1-010204
TP-12	TP-010121	077		Adding section for multi-layer functional testing	D	3.3.0	3.4.0	T1-010207
TP-12	TP-010121	078		Update of interoperability radio bearer test cases	F	3.3.0	3.4.0	T1-010208
TP-12	TP-010121	079		CR to TS 34.123-1 Update of Table B/1	D	3.3.0	3.4.0	T1-010217
TP-13	TP-010186	080		Parameters update and Editorial corrections in clauses 7.2.3.1. 7.2.3.2.1. 7.2.3.23. 7.2.3.24	F	3.4.0	3.5.0	T1-010292
TP-13	TP-010186	081		Corrections to Clause 13 General Tests	F	3.4.0	3.5.0	T1-010293
TP-13	TP-010186	082		Modification in "Method of Test" for RBS test cases in	F	3.4.0	3.5.0	T1-010294
				Clause 14				
TP-13	TP-010186	083		Editorial modification for References	F	3.4.0	3.5.0	T1-010295
TP-13	TP-010186	084		Clause 7.3, PDCP tests	F	3.4.0	3.5.0	T1-010378
TP-13	TP-010186	085		Idle mode: Merge of T1S-010180 and 188	F	3.4.0	3.5.0	T1-010297
TP-13	TP-010186	086		clause 7.4 BMC: editorial correction	F	3.4.0	3.5.0	T1-010379
TP-13	TP-010186	087		Clause 7.1, MAC test cases	F	3.4.0	3.5.0	T1-010299
TP-13	TP-010186	088		Corrections to RLC test case 7.2.2.2	F	3.4.0	3.5.0	T1-010300
TP-13	TP-010186	089		Corrections to RLC test case 7.2.2.3	F	3.4.0	3.5.0	T1-010301
TP-13	TP-010186	090		Corrections to RLC test case 7.2.2.8	F	3.4.0	3.5.0	T1-010302
TP-13	TP-010186	091		Corrections to RLC test case 7.2.2.10	F	3.4.0	3.5.0	T1-010303
TP-13	TP-010186	092		Corrections to RLC test case 7.2.2.9	F	3.4.0	3.5.0	T1-010304
TP-13	TP-010186	093		Corrections to RLC test case 7.2.2.12	F	3.4.0	3.5.0	T1-010305
TP-13	TP-010186	094		Corrections to RLC test case 7.2.2.29	F	3.4.0	3.5.0	T1-010306
TP-13	TP-010186	095		Corrections to RLC test case 7.2.2.30	F	3.4.0	3.5.0	11-010307
TP-13	TP-010186	096		Corrections to RLC test case 7.2.2.33		3.4.0	3.5.0	T1-010308
TP-13	TP-010186	097		Corrections to RLC test case 7.2.2.34		3.4.0	3.5.0	T1-010309
TP-13	TP-010186	098		Updates to clause 8 and Annex A		3.4.0	3.5.0	T1-010310
TP-13	TP-010186	100		RRU tests (section 8)	F	3.4.0	3.5.0	T1-010311
TD 12	TP 010100	100		Undete en Mehility Management	Г Г	3.4.0	3.5.0	T1-010312
TD 12	TP 010100	101		Addition of a SM test age for UE in CSM	Г Г	3.4.0	3.5.0	T1-010313
TD 12	TP 010100	102		Clause 12 "Elementary procedure for Dacket Switched		3.4.0	3.5.0	T1-010314
11-13	11-010100	103		Mobility Management"(GMM)	1	5.4.0	3.3.0	11-010313
TP-13	TP-010186	104		Update of radio bearer test cases	F	3.4.0	3.5.0	T1-010316
TP-13	TP-010186	105		SMS test specification	F	3.4.0	3.5.0	T1-010317
TP-13	TP-010186	106		RACH Test Procedures for 1.28 Mcps TDD (Rel-4)	F	3.4.0	4.0.0	T1-010318
TP-13	TP-010186	107		Corrections to RLC test case 7.2.2.14	F	3.4.0	3.5.0	T1-010319
TP-13	TP-010186	108		Corrections to RLC test case 7.2.2.7 and 7.2.2.13	F	3.4.0	3.5.0	T1-010320
TP-13	TP-010186	109		RLC acknowledge mode test cases 7.2.3.14 and 7.2.3.34	F	3.4.0	3.5.0	T1-010321
TP-13	TP-010186	110		Merging of Rel4 and R99 protocol test specifications	F	3.4.0	4.0.0	T1-010272
1P-13	1P-010189	112		Update of Annex B		3.4.0	3.5.0	
12-14	TP-010261	113		Clause 7.3: PDCP testing: additional configuration information	F	4.0.0	4.1.0	11-010406
TP-14	TP-010261	114		Clause 7.4: BMC testing: update for BMC testing	F	4.0.0	4.1.0	T1-010407
TP-14	TP-010261	115		Clause 7.2: Update of UM and AM RLC test cases	F	4.0.0	4.1.0	T1-010408
TP-14	TP-010261	116		Idle mode tests (34.123-1)	F	4.0.0	4.1.0	T1-010409
TP-14	TP-010261	117		Removal of TBD Power Levels in section 6	F	4.0.0	4.1.0	T1-010410
TP-14	TP-010261	118		Idle Mode Test Parameters for Multi-mode environment	F	4.0.0	4.1.0	T1-010411
TP-14	TP-010261	119		Traffic Volume Measurement test cases (34.123-1 section	F	4.0.0	4.1.0	T1-010412
TP-14	TP-010261	120		8.4) New interRAT test cases	F	4.0.0	4.1.0	T1-010413

3GPP TS 34.123-1 V4.1.0 (2001-12)

Meeting	Doc-1st-	CR	Rev	Subject	Cat	Version-	Version	Doc-2nd-
Level	Level					Current	-14644	Levei
TP-14	TP-010261	121		Corrections to Annex A	F	4.0.0	4.1.0	T1-010414
TP-14	TP-010261	122		Clause 12 Packet Switched Mobility Management	F	4.0.0	4.1.0	T1-010415
TP-14	TP-010261	123		Update to GMM test cases	F	4.0.0	4.1.0	T1-010416
TP-14	TP-010261	124		Update of interoperbility radio bearer test cases for FDD.	F	4.0.0	4.1.0	T1-010417
TP-14	TP-010261	125		Update to SMS test specification	F	4.0.0	4.1.0	T1-010418
TP-14	TP-010261	126		Corrections to RRC test cases	F	4.0.0	4.1.0	T1-010419
TP-14	TP-010261	127		RRC Connection Management Procedure Tests for the TDD options	F	4.0.0	4.1.0	T1-010420
TP-14	TP-010261	128		Annex A Default RRC Message Contents for 1.28Mcps TDD Mode	F	4.0.0	4.1.0	T1-010421
TP-14	TP-010261	129		Radio Bearer Tests for 1.28 Mcps TDD Mode	F	4.0.0	4.1.0	T1-010422
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3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

	CHANGE REQUEST												
ж	<mark>34.1</mark> 2	23-1	CR	160	ж	ev	-	ж	Current ve	ersio	n: 4. ′	1.0	ж
For <u>HELP</u> on	For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.												
Proposed change affects: \$\$ (U)SIM ME/UE X Radio Access Network Core Network													
Title:	策 Cor	rection	n of MA	C confc	ormance	test 7	<mark>.1.2.3</mark>	.1					
Source:	¥ Eric	sson											
Work item code:	<mark>೫ TEI</mark>								Date:	ж ;	<mark>2002-0</mark> 2	2-15	
Category: # F Release: # REL-4 Use one of the following categories: Ise one of the following releases: 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can be found in 3GPP TR 21.900. REL-4 (Release 5)							ases:						
Reason for chang	ge: Ж	Conf	ormano	ce tests	7.1.2.3.	l is no	<mark>t in ac</mark>	cord	ance with o	core	specific	ations	6.
Summary of char	nge: ೫	Corre Requ Modi	ection o liremer fied tex	of Confo nt. kt "CHAI	rmance NNEL R	Requi EQUE	remer ST" to	nts, T o "RR	est Purpos	se, To ECTIO	est met ON_RE	hod ai QUES	nd Test
Consequences if not approved:	7 H	Test	is not a	aligned	with core	speci	ficatio	ons a	nd would fa	ail a g	good Ul	Ε.	
Clauses affected	: ¥	7.1.2	.3.1										
Other specs affected:	¥ [Ot Te	ther co est spe &M Spe	re specificatior ecificatior	fications ns ons	\$	ß						
Other comments:	· ¥	Affec	ts R99	& REL-	4								

How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

T1-020090

Release 4

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.1.2.3 Correct Selection of RACH parameters

7.1.2.3.1 Correct Selection of RACH parameters (FDD)

7.1.2.3.1.1 Definition and applicability

All FDD UE. The physical random access procedure described in this subclause is initiated upon request of a PHY-Data-REQ primitive from the MAC sublayer.

The UE selection of "PRACH system information" is described in TS 25.331 clause 8.5.17

7.1.2.3.1.2 Conformance requirement

The following parameters are randomly selected by the physical layer (possibly within constraints defined by ASC parameters):

PRACH initial access slot;

- PRACH signature.

A. The physical random-access procedure shall be performed as follows:

- 1 Derive the available uplink access slots, in the next full access slot set, for the set of available RACH subchannels within the given ASC with the help of TS 25.214, subclauses 6.1.1. and 6.1.2. Randomly select one access slot among the ones previously determined. If there is no access slot available in the selected set, randomly select one uplink access slot corresponding to the set of available RACH sub-channels within the given ASC from the next access slot set. The random function shall be such that each of the allowed selections is chosen with equal probability.
- 2 Randomly select a signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.

3 Set the Preamble Retransmission Counter to Preamble Retrans Max.

<u>...</u>

5 ... Transmit a preamble using the selected uplink access slot, signature, and preamble transmission power.

<u>6</u> If no positive or negative acquisition indicator (AI \neq +1 nor -1) corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot:

6.1 Select the next available access slot in the set of available RACH sub-channels within the given ASC.

6.2 Randomly select a new signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.

<u>...</u>

6.4 Decrease the Preamble Retransmission Counter by one.

<u>6.5 If the Preamble Retransmission Counter > 0 then repeat from step 5. Otherwise pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.</u>

- 7 If a negative acquisition indicator corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot, pass L1 status ("Nack on AICH received") to the higher layers (MAC) and exit the physical random access procedure.
- 8 Transmit the random access message three or four uplink access slots after the uplink access slot of the last transmitted preamble depending on the AICH transmission timing parameter. Transmission power of the control part of the random access message should be P p-m [dB] higher than the power of the last transmitted preamble. Transmission power of the data part of the random access message is set according to subclause 5.1.1.2.

<u>9 Pass L1 status "RACH message transmitted" to the higher layers and exit the physical random access</u> procedure.

Reference(s)

TS 25.321 clause A.1.

TS 25.214 clause 6.1.

7.1.2.3.1.3 Test purpose

To verify that the UE selects the correct initial access slot and PRACH signature.

To verify that:

A1 the UE, initially:

- <u>derives the available uplink access slots, in the next full access slot set, for the set of available RACH subchannels within the given ASC with the help of TS 25.214, subclauses 6.1.1. and 6.1.2. and randomly select one access slot among the ones previously determined.</u>
- randomly select a new signature from the set of available signatures within the given ASC.

A2 the UE, when not receiving any reply from UTRAN:

- selects the next available access slot in the set of available RACH sub-channels within the given ASC.
- randomly select a new signature from the set of available signatures within the given ASC.
- does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.
- A3 the UE, when detecting a negative acquisition indicator:
 - does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

A4 the UE, when detecting a positive acquisition indicator:

- transmits the random access message three or four uplink access slots after the uplink access slot of the last transmitted preamble depending on the AICH transmission timing parameter.
- terminates the random access procedure.

7.1.2.3.1.4 Method of test

Initial conditions

The UE shall be attached to the network and in idle mode. The SS will broadcast the Access Service Class parameters [on the BCH?].

Preamble Retrans Max parameter in SIB5 set to 5.

2 ASC settings (ASC#0 and ASC#1) are defined (with default parameters) in SIB5, except that the parameter assigned sub channel number is set as follows:

ASC#0 Assigned sub channel number = '0001'B

ASC#1 Assigned sub channel number = '0010'B

The available sub-channel number defined in SIB5 is set to '0000 0000 0011'B. Note: this value allows RACH transmission on sub-channels 0 (ASC#0) and 1 (ASC#1) only.

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

- a) The SS pages the UE until it performs a RACH access.
- b) The SS measures the access slot and preamble signiture used.
- c) The SS does not acknowledge the RACH access, causing the UE to retry.
- d) The SS again measures the access slot and preamble signiture used.
- e) The SS repeats the procedure from step c) until the maximum number of retries N_{RA} have been attempted, and monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

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- f) The SS pages the UE until it performs a RACH access.
- g) The SS measures the the access slot and preamble signiture used.
- h) The SS responds with a negative acquisition indicator on the AICH.
- i) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.
- j) The SS pages the UE until it performs a RACH access.
- k) The SS measures the access slot used.
- 1) The SS acknowledges the RACH access normally.
- m) The SS measures the first access slot used in the PRACH message part.
- n) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

Expected sequence

<u>Step</u>	Direction Message		Comments
	<u>UE</u> <u>SS</u>		
<u>1</u>	<u>←</u>	PAGE	Preamble Retransmission Counter = 5
<u>2</u>	<u>→</u>	RRC CONNECTION REQUEST	<u>Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}</u>
			Signature used = 1 from $\{P_0 \dots P_7\}$
			Preamble Retransmission Counter = 4
<u>3</u>	<u></u>	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
			Signature used = 1 from $\{P_0 \dots P_7\}$
			Preamble Retransmission Counter = 3
<u>4</u>	<u>→</u>	RRC_CONNECTION_REQUEST	Access slot used = 1 from {0,1,3,4,6,7,9,10,12,13}
			Signature used = 1 from $\{P_0 \dots P_7\}$
			Preamble Retransmission Counter = 2
<u>5</u>	<u>→</u>	RRC_CONNECTION_REQUEST	<u>Access slot used = 1 from $\{0, 1, 3, 4, 6, 7, 9, 10, 12, 13\}$</u>
			Signature used = 1 from $\{P_0 \dots P_7\}$
			Preamble Retransmission Counter = 1
<u>6</u>		RRC CONNECTION REQUEST	Access slot used = 1 from $\{0, 1, 3, 4, 6, 7, 9, 10, 12, 13\}$
			Signature used = 1 from $\{P_0 P_7\}$
7		Wait for T – ITPDIa	$\frac{\text{Preamble Retransmission Counter = 0}}{\text{SS monitors for RACH access attempts}}$
<u>/</u>	6		SS MONITORS TO RACH access attempts
<u>0</u>		PRC CONNECTION REQUEST	Λ_{ccoss} slot used = 1 from $\{0, 1, 3, 4, 6, 7, 9, 10, 12, 13\}$
<u> </u>	~		$\frac{Access siot used = 1 \text{ from } \{P_0, P_2\}}{\text{Signature used} = 1 \text{ from } \{P_0, P_2\}}$
10	←	AICH = NEG ACOUISITION IND	
11	<u> </u>	Wait for $T = [TBD]s$	SS monitors for RACH access attempts
12	←	PAGE	
13	$\overline{\rightarrow}$	RRC CONNECTION REQUEST	Access slot used $n = 1$ from
			{0,1,3,4,6,7,9,10,12,13}
			Signature used = 1 from $\{P_0 P_7\}$
14	←	AICH = POS ACQUISITION IND	
15	<u>→</u>	RRC CONNECTION REQUEST	Message part. Access slot used = n+3
<u>16</u>		Wait for T = [TBD]s	SS monitors for RACH access attempts

Specific Message Contents

PRACH power offset info, PRACH info, and PRACH partitioning in System Information Block type 5

Information Element	Value/Remark
PRACH info	
- CHOICE	FDD
- Available Sub Channel number	<u>'0000 0000 0000 00011'B</u>
PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	<u>0 (ASC#0)</u>
 Available signature End Index 	<u>7 (ASC#0)</u>
- Assigned Sub-channel Number	<u>'0001'B</u>
- ASC Setting	
- CHOICE mode	FDD
 Available signature Start Index 	<u>0 (ASC#1)</u>
- Available signature End Index	<u>7 (ASC#1)</u>
- Assigned Sub-channel Number	<u>'0010'B</u>
PRACH power offset	
 Preamble Retrans Max 	<u>5</u>

Step	Direction		Message	Comments		
	UE	SS				
4	+	-	PAGE			
2	\rightarrow		→ CHANNEL REQUEST		CHANNEL REQUEST	Access slot and signature should be in
				accordance with ASC parameters		

7.1.2.3.1.5 Test requirements

The RACH access should take place on a PRACH access slot, and using a PRACH signature allowed by the UE Access Service Class.

<u>A1</u>

At step 2

the SS shall receive a PRACH preamble using an access slot from the set of access slots
 {0,1,3,4,6,7,9,10,12,13} and using a preamble signature from the set of preamble signatures {P₀...P₇}. See TS 25.213, clause 4.3.3.3 for a list of preamble codes.

<u>A2</u>

At steps 3, 4, 5, and 6

the SS shall receive a PRACH preamble using an access slot from the set of access slots
 <u>{0,1,3,4,6,7,9,10,12,13}</u> and using a preamble signature from the set of preamble signatures {P₀...P₇}. See TS 25.213, clause 4.3.3.3 for a list of preamble codes.

At step 7

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

<u>A3</u>

<u>At step 11</u>

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

<u>A4</u>

At step 15

- the SS shall receive the random access message three access slots after the uplink access slot of the preamble received in step 13.

At step 11

- the SS shall not receive on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

Note: Due to the indeterminate timing parameter T_{p-p} (see TS 25.211, clause 7.3) it is not possible to determine the SFN and therefore the exact access slot set that should be used for PRACH preamble re-transmissions. It is only possible to determine a larger set based on allowed sub-channels.

3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21th-22th February 2002

3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

CHANGE REQUEST									
^ж 3	<mark>4.123-</mark> 1	CR <mark>159</mark>	₩.6	¥ _ ¥	Current vers	^{ion:} 4.1.0 [#]			
For <u>HELP</u> on u	For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the # symbols.								
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network									
Title: Ж	Correction	on of MAC confo	rmance test	7.1.2.1.1					
Source: ೫	Ericssor	1							
Work item code: ೫	TEI				<i>Date:</i> ೫	2002-02-15			
Category: % F Release: % REL-4 Use one of the following categories: Use one of the following releases: 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can be found in 3GPP TR 21.900. REL-4 (Release 5)							s:		
Reason for change	e: ೫ Cor	nformance tests	7.1.2.1 is no	t in accord	dance with core	specifications.			
Summary of chang	ge: # Cor Rec Mo	rection of Confo quirement. dified text "CHAN	rmance Rec	uirements IEST" to "I	RRC CONNECT	Test method and T	est		
Consequences if not approved:	# Tes	t is not aligned v	vith core spe	ecifications	s and would fail	a good UE.			
Clauses affected:	೫ 7.1	2.1.1							
Other specs affected:	ж (Other core specif Test specification D&M Specification	ications Is Ins	ж					
Other comments:	ж								

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T1-020089

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.1.2 RACH/FACH procedures

- 7.1.2.1 Selection and control of Power Level
- 7.1.2.1.1 Selection and control of Power Level (FDD)
- 7.1.2.1.1.1 Definition and applicability

All FDD UE.

Selection and control of power level for PRACH is controlled by the physical random access procedure which is initiated upon request of a PHY-Data-REQ primitive from the MAC sublayer.

The UE selection of "PRACH system information" is described in TS 25.331 clause 8.5.17

7.1.2.1.1.2 Conformance requirement

A. For FDD and prior to PRACH or PCPCH transmission the UE shall:

 read the IEs "Primary CPICH DL TX power", "UL interference" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and System Information Block type 7;

- measure the value for the CPICH_RSCP;

- calculate the power for the first preamble as:

<u>Preamble_Initial_Power = Primary CPICH DL TX power - CPICH_RSCP + UL interference + Constant</u> <u>Value</u>

Where,

- Primary CPICH DL TX power shall have the value of IE "Primary CPICH DL TX power",
- UL interference shall have the value of IE "UL interference"; and
- Constant Value shall have the value of IE "Constant Value".
- as long as the physical layer is configured for PRACH or PCPCH transmission:
 - continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and
 - resubmit to the physical layer the new calculated Preamble_Initial_Power.
- B. The physical random-access procedure shall be performed as follows:

<u>....</u>

- 3. Set the Preamble Retransmission Counter to Preamble Retrans Max.
- 4. Set the parameter Commanded Preamble Power to Preamble Initial Power.
- 5 In the case that the Commanded Preamble Power exceeds the maximum allowed value, set the preamble transmission power to the maximum allowed power. In the case that the Commanded Preamble Power is below the minimum level required in 3GPP TS 25.101, set the preamble transmission power to a value, which shall be at or above the Commanded Preamble Power and at or below the required minimum power specified in 3GPP TS 25.101. Otherwise set the preamble transmission power to the Commanded Preamble Power. Transmit a preamble using the selected uplink access slot, signature, and preamble transmission power.

<u>6</u> If no positive or negative acquisition indicator (AI \neq +1 nor -1) corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot:

6.1 Select the next available access slot in the set of available RACH sub-channels within the given ASC.

- 6.2 Randomly select a new signature from the set of available signatures within the given ASC. The random function shall be such that each of the allowed selections is chosen with equal probability.
- <u>6.3 Increase the Commanded Preamble Power by $\Delta P_0 =$ Power Ramp Step [dB]. If the Commanded Preamble Power exceeds the maximum allowed power by 6dB, the UE may pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.</u>
- 6.4 Decrease the Preamble Retransmission Counter by one.
- <u>6.5 If the Preamble Retransmission Counter > 0 then repeat from step 5. Otherwise pass L1 status ("No ack on AICH") to the higher layers (MAC) and exit the physical random access procedure.</u>
- 7 If a negative acquisition indicator corresponding to the selected signature is detected in the downlink access slot corresponding to the selected uplink access slot, pass L1 status ("Nack on AICH received") to the higher layers (MAC) and exit the physical random access procedure.

Reference(s)

TS 25.331 clause 8.5.7.

TS 25.214 clause 6.1.

- 1. The UE sets the preamble transmit power to the value P_{RACH} given in clause 5.1.1 of 25.214.
- 2. If the UE does not detect the positive or negative acquisition indicator corresponding to the selected signature in the downlink access slot corresponding to the selected uplink access slot, the UE increases the preamble transmission power with the specified offset ΔP_{0} .

Reference(s)

TS 25.214 clause 6.

TS 25.321 clause 11.2.

7.1.2.1.1.3 Test purpose

To verify that the UE selects the correct preamble transmit power according to the value of I_{BTS} transmitted in layer 3 messages on the BCH, and that:

— if the RACH access is not responded to, the power is stepped according to the power step ΔP_{0} .

— if the RACH access is negatively acknowledged, the power is stepped according to the power step ΔP_{1-} To verify that:

- A. the UE selects the correct initial preamble transmit power at start of a power ramp cycle, taking account of the "Primary CPICH DL TX power", "UL interference" and "Constant value" parameter values as received in SIB5 as well as the measured CPICH_RSCP;
- B1 the UE, when not receiving any reply from UTRAN:
 - performs a power ramp cycle taking into account the Power Ramp Step and Preamble Retrans Max paremeter values as received in SIB 5;
 - does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

B2 the UE, when detecting a negative acquisition indicator:

 does not transmit on the PRACH resources specified in the BCH message SIB 5 after that the physical random access procedure is terminated.

7.1.2.1.1.4 Method of test

Initial conditions

The UE is attached to the network and in idle mode.

Preamble Retrans Max parameter in SIB5 set to 5.

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

- a) The SS pages the UE until it performs a RACH access.
- b) The SS measures the power level of the RACH access.
- c) The SS does not acknowledge the RACH access, causing the UE to retry.
- d) The SS again measures the power level of the RACH access.
- e) The SS repeats the procedure from step c) until the maximum number of retries N_{RA} have been attempted, and monitors the RACH channel for [TBD] seconds until $T_{xx} + Xs$ -to ensure that no further RACH accesses occur.
- f) The SS pages the UE until it performs a RACH access.
- g) The SS measures the power level of the RACH access.
- hg) The SS responds with a negative acquisition indicator on the AICH.

i) The SS monitors the RACH channel for [TBD] seconds to ensure that no further RACH accesses occur.

- h) The SS measures the power level of the next RACH access.
- i) The SS repeats steps g) and h) until the maximum number of retries N_{RA} have been attempted.

Release 4

Expected sequence

Step	Direction		Message	Comments				
-	UE	SS						
1	→ →		÷		PAGE	Preamble Retransmission Counter = 5		
2	1	>	CHANNEL	Power should be set to				
			REQUESTRRC_CONNECTION_R	Preamble Initial PowerLever + IBTS + C				
			EQUEST	Preamble Retransmission Counter = 4				
3			Wait for $T = ??$					
<u>3</u> 4	1	>	RRC_CONNECTION_REQUEST	Power should be set to Preamble Initial Power +				
			HANNEL REQUEST	$\Delta P_0 L_{Perch} + I_{BTS} + C + \Delta P_0$				
				Preamble Retransmission Counter = 3				
<u>4</u> 5	1.	>	RRC_CONNECTION_REQUEST	Power should be set to Preamble Initial Power +				
					HANNEL REQUEST	$\frac{2\Delta P_0 L_{Perch} + I_{BTS} + C + 2\Delta P_0}{2\Delta P_0}$		
						Preamble Retransmission Counter = 2		
<u>5</u> 6	11	<u>></u>	RRC CONNECTION REQUEST	Power should be set to Preamble Initial Power +				
				<u>3∆P₀Repeat (step 5)</u>				
				Preamble Retransmission Counter = 1				
7<u>6</u>	-	>	RRC CONNECTION REQUEST	Power should be set to <u>Preamble Initial Power +</u>				
			HANNEL REQUEST	$\frac{4\Delta P_0}{E_{Perch} + I_{BTS} + C + n\Delta P_0}$				
				Preamble Retransmission Counter = 0				
<u>7</u> 8			Wait for T = <u>[TBD]s</u> ??	SS monitors for RACH access attempts				
<mark>8</mark> 9	÷	_	PAGE					
<u>9</u> 10	-	>	RRC_CONNECTION_REQUEST	Power should be set to Preamble Initial Power				
			HANNEL REQUEST	Eperch + IBTS + C				
<u>10</u> 11	←		AICH = NEG ACQUISITION IND	Power should be set to $L_{Perch} + I_{BTS} + C + \Delta P_{1}$				
<u>11</u>			Wait for T = [TBD]s	SS monitors for RACH access attempts				
12	-	≻	CHANNEL REQUEST	Power should be set to L _{Perch} + I _{BTS} + C				
13	←	-	AICH = NEG ACQUISITION IND	Power should be set to $L_{Perch} + I_{BTS} + C + 2\Delta P_{+}$				
14				Repeat (step 13)				
15		-	AICH = NEG ACQUISITION IND	Power should be set to L _{Perch} + I _{BTS} + C + n∆P₁				

Specific Message Contents

PRACH power offset info in System Information Block type 5

Information Element	Value/Remark			
PRACH power offset				
- Power Ramp Step	[TBD: 18] dB			
- Preamble Retrans Max	5			

7.1.2.1.1.5 Test requirements

A. At step 2 and 9 Initially, the measured power level shall beshould be:

- P_{RACH} = Primary CPICH DL TX power – CPICH_RSCP + UL interference + Constant Value ± [TBD] dB

Where "Primary CPICH DL TX power", "UL interference" and "Constant Value" are set by the SS via SIB5, and CPICH_RSCP is the UE measured received power on one code measured on the Primary CPICH which is reported back to the SS in measurement reports. $P_{RACH} = L_{Pereh} + I_{BTS} + Constant value.$

Where I_{BTS} and the Constant value are set by the SS, and L_{Perch} is the measured path loss on the PCCPCH, and reported back to the SS in measurement reports.

<u>B1</u>

- After step 6 the UE does not perform any RACH access attempts; and

- At step 2, 3, 4, 5 and 6 the measured power level shall be

<u> P_{RACH} = Preamble Initial Power + k* ΔP_0 </u>

<u>Where</u>

Preamble_Initial_Power is the SS measured P_{RACH} in step 1;

 ΔP_0 is the Power Ramp Step value set in SIB5; and

k=1 for step 2, k=2 for step 3, k=3 for step 4, k=4 for step 5 and k=5 for measurement in step 6

B2 After step 10 the UE does not perform any RACH access attempts

Subsequently the power should increase by ΔP_0 steps each retransmission until N_{RA} -number of attempts have been made.

Then, no further RACH accesses should be received for then next T seconds.

At the start of the next phase of the test, the measured power level should be $P_{RACH} = L_{Perch} + I_{BTS} + Constant value$. Subsequently the power should increase in ΔP_1 -steps until N_{RA} -number of attempts have been made.

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Reason for change: #	Introduces RRC Radio Bearer Control Procedure test parameters for the TDD options.
Summary of change: ¥	 options. Most of the tests described in TS34.123 section 8.2 are applicable, unchanged, to both FDD and TDD, however, in a small number of cases TDD specific information is added. Where the contents of test messages are listed, it is necessary to introduce TDD versions of these messages. TDD specific parameters are introduced to those tests where TDD specific parameters are required. Frecuency info is specified for TDD in a lot of cases. PRACH TFCS is changed to Present to have an invalid configuration if needed in RADIO BEARER SETUP for TDD Uplink DPCH timeslots and codes included if used DPCH info for FDD mode. Downlink information for each radio link is splitted in two tables, one for FDD and one for TDD dBm values and channels for TDD cell are included Some clarifications in the sequences are done to distinguish between FDD and TDD.

Consequences if not approved:	# Test procedures will not be defined for the TDD 1.28 Mcps and 3.84 Mcps options.
Clauses affected:	¥ 8.2
Other specs affected:	 Conter core specifications TS 34.123-2 Test specifications O&M Specifications
Other comments:	* These Test cases are applicable to Release 99 and Release 4 CR T1S-010373r1 has been taken in account to be compatible with the approval of the mentioned CR. There is no overlapping between both documents. This document provides the complementary information needed to be applied the test cases for TDD.

8.2 Radio Bearer control procedure

8.2.1 Radio Bearer Establishment

- 8.2.1.1 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success
- 8.2.1.1.1 Definition

8.2.1.1.2 Conformance requirement

The UE shall correctly set up a new radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.1.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message.

8.2.1.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state, after the test operator is prompted to make an out-going call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message to the UE. This message requests the establishment of radio access bearer. After the UE receives this message, it configures them and establishes a radio access bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER SETUP	This message do not contain IE "integrity check info" and "integrity protection mode info"
2	→	RADIO BEARER SETUP COMPLETE	This message do not contain "integrity check info" and "Uplink integrity activation info

Specific Message Contents

None.

8.2.1.1.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message. 8.2.1.2 Void

8.2.1.3 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.1.3.1 Definition

8.2.1.3.2 Conformance requirement

The UE shall keep its current configuration when the UE receives a RADIO BEARER SETUP message which includes unsupported configuration parameters and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.3.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of receiving a RADIO BEARER SETUP message which includes parameters of its unsupported configuration.

8.2.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message in which the frequency cannot be supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment		
	UE	SS				
1	÷		÷		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	<i>→</i>		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.		

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

RADIO BEARER SETUP (FDD)

	Information Element	Value/remark
H	Frequency info	
	CHOICE mode	FDD
	- UARFCN uplink (Nu)	0
	- UARFCN downlink (Nd)	950

RADIO BEARER SETUP (TDD)

Information Element	Value/remark
Frequency info	
CHOICE mode	TDD
- UARFCN (Nt)	<u>0</u>

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type Failure cause	Configuration unsupported

8.2.1.3.5 Test requirement

After step 1 the UE transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

- 8.2.1.4 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)
- 8.2.1.4.1 Definition

8.2.1.4.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer before T312 expires and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.4.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the radio bearer according to the RADIO BEARER RECONFIGURATION message before timer T312 expires.

8.2.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE and SS keep its old dedicated channel configuration. Then after T312 expiry, the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER SETUP	The SS keeps its old L1 configuration after transmitting this message.
2			The UE does not configure the new radio access bearer and reverts to the old configuration.
3	\rightarrow	RADIO BEARER SETUP FAILURE	UE shall transmit this message using the old configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	Physical channel failure

8.2.1.4.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

8.2.1.5 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.5.1 Definition

8.2.1.5.2 Conformance requirement

The UE shall perform a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure. After the UE complete cell update procedure, the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.5.3 Test purpose

To confirm that UE transmits RADIO BEARER SETUP FAILURE message after it completes a cell update procedure due to a physical channel failure in the radio bearer establishment procedure.

8.2.1.5.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: CS-DCCH_DCH (state 6-5) or PS_DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE. After transmitting the RADIO BEARER SETUP message, the SS shall not configure its dedicated physical channel in accordance with the settings in the message and release the old configuration after the RLC acknowledgement. The UE recognizes that it cannot synchronise on the new physical channel and wants to revert to the old configuration, but the UE cannot revert to the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value of IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER SETUP	
2			The SS does not configure new radio access bearer and shall release the configuration.
3	\rightarrow	CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4	÷	CELL UPDATE CONFIRM	This message includes IE "Physical channel information elements".
5			The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	\rightarrow	RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RRC CONNECTION SETUP message used to
	move to initial condition
Downlink information for each radio links	Same as RRC CONNECTION SETUP message used to
	move to initial condition

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to
	move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to initial condition

RADIO BEARER SETUP FAILURE (Step 7)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER SETUP FAILURE"
Failure cause	"physical channel failure"

8.2.1.5.5 Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.1.6 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

- 8.2.1.6.1 Definition
- 8.2.1.6.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.6.3 Test purpose

To confirm that if the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.1.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS_DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep its current configuration as if it had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS acknowledges the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		RADIO BEARER RECONFIGURATION	Including IE "Activation Time"
2	¥	<u>-</u>	RADIO BEARER SETUP	The SS send this message before the expiry of activation time specified in the message of step 1.
3	-	>	RADIO BEARER SETUP FAILURE	The UE does not change the configuration according to the RADIO BEARER SETUP message.
4	-	>	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION message in step 1, use the message sub-type indicated as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
Uplink DPCH Info	
- Scrambling code number	1

RADIO BEARER SETUP (Step 2)

The contents of RADIO BEARER SETUP message in this test case is indicated as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
Uplink DPCH Info	
- Scrambling code number	2

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure case	Incompatible simultaneous reconfiguration

8.2.1.6.5 Test requirement

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.1.7 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.1.7.1 Definition

8.2.1.7.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER SETUP message, which does not includes any IEs except IE "Message Type". Then it transmits a RADIO BEARER SETUP FAILURE message which is set to "protocol error" in IE "failure cause" and is set to "ASN.1 violation or encoding error" in IE "Protocol error cause".

The UE shall keep existing configuration upon reception of a RADIO BEARER SETUP message which includes some IEs set to give an invalid configuration, and then the UE shall transmit a RADIO BEARER SETUP FAILURE message including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.7.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER SETUP message which does not include any IEs except IE "Message Type". To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message including some IEs set to give an invalid configuration.

8.2.1.7.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH_DCH (state 6-5) or PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. The SS transmits an invalid RADIO BEARER SETUP message to the UE which does not includes any IEs except IE "Message Type". The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause", and is set to "ASN.1 violation or encoding error " in IE "Protocol error cause". The UE keeps current configuration after SS transmits a RADIO BEARER SETUP message including some IEs set to give an invalid configuration. Then UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•		RADIO BEARER SETUP	See specific message content.
2	-	>	RADIO BEARER SETUP FAILURE	The UE does not change its configuration.
3	•		RADIO BEARER SETUP	This message includes IE set to invalid value.
4	-	>	RADIO BEARER SETUP FAILURE	The UE does not change its configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
All IEs	Not Present

RADIO BEARER SETUP FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	ASN.1 violation or encoding error
Other information element	Not checked

RADIO BEARER SETUP (Step 3)

The contents of RADIO BEARER SETUP message in this test case is identical as "Non-speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108 with the following exceptions:

RADIO BEARER SETUP (Step 3) (FDD)

Information Element	Value/remark
 Default DPCH Offset Value 	512
- DPCH frame offset	1024

RADIO BEARER SETUP (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER SETUP FAILURE (Step 5)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration

8.2.1.7.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause" and set to "ASN.1 violation or enoding error " in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.1.8 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success

8.2.1.8.1 Definition

8.2.1.8.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.8.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message.

8.2.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state, after the test operator is asked to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE. After the UE receives this message, it transits from CELL_DCH to CELL_FACH state. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		rection Message	Comment
	UE	SS		
1	*	÷	RADIO BEARER SETUP	SS requests test operator to make an outgoing packet-switched data call.
2	→		RADIO BEARER SETUP COMPLETE	The UE selects PRACH and S- CCPCH indicated in SIB5 or SIB6 after entering CELL FACH state.

Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A.

8.2.1.8.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message. 8.2.1.9Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.1.9.1 Definition

8.2.1.9.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer establishment procedure and correctly establish the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.9.3 Test purpose

To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message after it completes a cell update procedure.

8.2.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell- Cell 1 is active. UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message which includes IE"Primary CPICH info" and no dedicated physical channel information, to request the UE to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, the UE shall initiate the cell update procedure. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		n Message	Comment	
	UE	SS			
1			Void		
2			Void		
3	•	<u>-</u>	RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH	
4	-	>	CELL UPDATE	The value "cell reselection" set in IE "Cell update cause".	
5	•	÷	CELL UPDATE CONFIRM		
6			Void		
7	-	>	RADIO BEARER SETUP COMPLETE		

Specific Message Contents

RADIO BEARER SETUP (Step 3) (FDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

RADIO BEARER SETUP (Step 3) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	<u>4</u>

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A.

8.2.1.9.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 6 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

8.2.1.10 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success

8.2.1.10.1 Definition

8.2.1.10.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.10.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message.

8.2.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state, after SS prompts the test operator to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE. After the UE receives this message, it configures them and establishes the required radio bearers. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷	÷	RADIO BEARER SETUP	
2	-)	RADIO BEARER SETUP	
			COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

8.2.1.10.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC. 8.2.1.11 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.1.11.1 Definition

8.2.1.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes an unsupported configuration and then transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, which sets value "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.11.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of it receiving a RADIO BEARER SETUP message, which includes parameters of an unsupported configuration.

8.2.1.11.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER SETUP message with a stated frequency that cannot be supported by the UE. After the UE receives this message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting value "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	4	RADIO BEARER SETUP	This message includes an unsupported configuration for the UE.
2	\rightarrow	RADIO BEARER SETUP FAILURE	The UE shall transmit this message using RLC-AM mode and do not change the current configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as " Packet to CELL_DCH from CELL_FACH in PS " as found in Annex A with the following exceptions:

RADIO BEARER SETUP (FDD)

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported

8.2.1.11.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

8.2.1.12 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.12.1 Definition

8.2.1.12.2 Conformance requirement

The UE shall attempt to revert to the old configuration when the UE fails to configure the new radio bearer before T312 expires and detects the same serving cell only. It shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC containing value "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE fails to configure the new radio bearer after it detects physical channel failure, followed by the T312 expiry.

8.2.1.12.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and keeps its old physical channel configuration. After T312 expiry, the UE shall perform cell reselection procedure and detect the same serving cell only. Then the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The content of the message shall indicate "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•		RADIO BEARER SETUP	The SS keep its old configuration.
2	<i>→</i>		RADIO BEARER SETUP FAILURE	The UE does not configure a new radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure

8.2.1.12.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

8.2.1.13 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.13.1 Definition

8.2.1.13.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer establishment procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.13.3 Test purpose

To confirm that the UE transmit a RADIO BEARER SETUP FAILURE message after it completes a cell update for the physical channel failure in the radio bearer establishment procedure.

8.2.1.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	<u>d</u> Bm <u>/3.84</u> <u>MHz</u>	-60	-75	-75	-60
<u>P-CCPICH</u> <u>RSCP (TDD)</u>	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.1.13

Table 8.2.1.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies reverse of the transmission power settings for cell 1 and cell 2.

The UE is in CELL_FACH state in cell 1. The SS transmits a RADIO BEARER SETUP message to the UE. After transmitting the RADIO BEARER SETUP message, the SS shall not configure its DL dedicated physical channel in accordance with the setting in the message and release its current configuration. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.1.13. The UE recognize that it cannot synchronize with the SS on the new radio bearer. The UE performs cell re-selection and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" which is set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
•	UE SS		
1	←	RADIO BEARER SETUP	
2			The SS does not configure the new radio bearer in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.13.
3		Void	
4			The UE select the cell 2.
5	\rightarrow	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6	÷	CELL UPDATE CONFIRM	This message include IE "new U- RNTI" and IE "new C-RNTI"".
7	\rightarrow	UTRAN MOBILITY INFORMATION	
8	\rightarrow	RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM" message as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER SETUP FAILURE (Step 8)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"

8.2.1.13.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 6 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.1.14 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.14.1 Definition

8.2.1.14.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.14.3 Test purpose

To confirm that if the UE receives a RADIO BEARER SETUP message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.1.14.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep its current configuration as if it had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS acknowledges the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RECONFIGURATION	Including IE "Activation Time "
2	÷	RADIO BEARER SETUP	The SS send this message before the expiry of activation time specified in the message of step 1.
3	→	RADIO BEAER SETUP FAILURE	The UE does not change the configuration because of the RADIO BEARER SETUP message, and transmit this message on its uplink DCCH using the same RLC-AM mode radio bearer before step 1.
4	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH Info	
- Scrambling code number	1

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned in step 1

RADIO BEARER SETUP (for Step 2) (FDD)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Not present
Uplink DPCH Info	
- Scrambling code number	2

RADIO BEARER SETUP (for Step 2) (TDD)

For this message, use the message sub-type entitled "Packet to CELL DCH from CELL FACH in PS" in the default message content. Information element(s) to be changed are listed below:
Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

RADIO BEARER SETUP FAILURE

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration

8.2.1.14.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 3 the UE shall configure the new configuration on the activation time and transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.1.15 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.1.15.1 Definition

8.2.1.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER SETUP message, which does not includes any IEs except IE "Message Type". It shall transmit a RADIO BEARER SETUP FAILURE message which set value "protocol error" in IE "failure cause" and also value "ASN.1 violation or encoding error" in IE " Protocol error cause". The UE shall keep the old configuration upon reception of a RADIO BEARER SETUP message, which includes some IEs set to give an invalid configuration, and then the UE shall transmit a RADIO BEARER SETUP FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER SETUP messagewhich does not include any IEs except IE "Message Type". To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message including some IEs set to give an invalid configuration.

8.2.1.15.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits an invalid RADIO BEARER SETUP message to the UE which does not include all IEs except IE "Message Type". The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. This message shall specify "protocol error" in IE

"failure cause" and also set the value " ASN.1 violation or encoding error " in IE "Protocol error cause". The UE keeps current configuration after SS transmits RADIO BEARER SETUP message including some IEs set to give an invalid configuration. Then UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	\leftarrow	RADIO BEARER SETUP	See specific message content.
2	\rightarrow	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.
3	÷	RADIO BEARER SETUP	This message includes IE set to give an invalid conifguration.
4	\rightarrow	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
All IEs	Not Present

RADIO BEARER SETUP FAILURE (Step 2)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding error

RADIO BEARER SETUP (Step 3)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

RADIO BEARER SETUP (Step 3) (FDD)

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024

RADIO BEARER SETUP (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER SETUP FAILURE (Step 4)

The contents of RADIO BEARER SETUP FAILURE message in this test case is the same as the RADIO BEARER SETUP FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Failure cause	Invalid configuration

8.2.1.15.5 Test requirement

After step 1 the UE shall transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The message shall indicate the reason of failure as "protocol error" in IE "failure cause" and set the value " ASN.1 violation or encoding error " in IE "Protocol error cause".

After step 3 the UE shall transmit RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value of IE "failure cause" to "invalid configuration".

8.2.1.16 Radio Bearer Establishment for transition from CELL_FACH to CELL FACH: Success

8.2.1.16.1 Definition

8.2.1.16.2 Conformance requirement

The UE shall correctly set up a radio access bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.16.3 Test purpose

To confirm that the UE establishes a new radio access bearer according to a RADIO BEARER SETUP message.

8.2.1.16.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state, after the test operator is being prompted to make an outgoing packet-switched call. The SS transmits a RADIO BEARER SETUP message to the UE. After the UE receives this message, it configures them and establishes a new radio access bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	\rightarrow		RADIO BEARER SETUP	The UE select PRACH and S-
			COMPLETE	CCPCH using SIB5 or SIB6.

Specific Message Contents

RADIO BEARER SETUP

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

8.2.1.16.5 Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message.

8.2.1.17 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: success (Subsequently received)

8.2.1.17.1 Definition

8.2.1.17.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message before the UE completes the configuration of the radio bearers according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.17.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE completes the configuration of the radio bearer according to a previous RADIO BEARER SETUP message, it ignores the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.

8.2.1.17.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: CS-DCCH_DCH (state 6-5) or PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE before the UE completes the configuration of the radio bearer according to the RADIO BEARER SETUP message prior to this new message. The UE ignores the new RADIO BEARER SETUP message and configures according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Step	Direc	ction	Message	Comment
	UE	SS		
1	¥	-	RADIO BEARER SETUP	The "Secondary scrambling code is set to "1" for FDD mode.
2	<i></i>		RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. <u>For FDD t</u> The IE "Secondary scrambling code" is set to "2" and for TDD mode a different code combination to that used in step 1 1 is used.
3	-	>	RADIO BEARER SETUP COMPLETE	The UE ignores the RADIO BEARER SETUP message in step 2 and completes configuration according to the RADIO BEARER SETUP message in step 1.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info	
 Secondary scrambling code 	1

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned in step 1

RADIO BEARER SETUP (Step 2) (FDD)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info	
- Secondary scrambling code	2

RADIO BEARER SETUP (Step 2) (TDD)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

8.2.1.17.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

- 8.2.1.18 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)
- 8.2.1.18.1 Definition

8.2.1.18.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message before the UE completes the configuration of the radio bearers according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1, clause 8.6.3.11.

8.2.1.18.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE completes the configuration of the radio bearer according to a previous RADIO BEARER SETUP message, it ignores the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.

8.2.1.18.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER SETUP message, requesting the UE to setup radio bearers using DPCH physical channels. SS transmits another RADIO BEARER SETUP message before the activation time specified in the first message has lapsed. The UE ignores the new RADIO BEARER SETUP message and configures the radio bearers according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Step	Direction	Message	Comment
	UE SS		
1	\leftarrow	RADIO BEARER SETUP	The "Secondary scrambling code is set to "1" for FDD mode.
2	÷	RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. <u>For FDD</u> <u>mode t</u> he IE "Secondary scrambling code" is set to "2" <u>and</u> for TDD mode a different code <u>combination to that used in step 1</u> 1 is used.
3	\rightarrow	RADIO BEARER SETUP COMPLETE	The UE ignores the RADIO BEARER SETUP message in step 2 and confirms configuration according to the RADIO BEARER SETUP message in step 1.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info	
- Secondary scrambling code	1

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned in step 1

RADIO BEARER SETUP (for Step 2) (FDD)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Not Present
- Uplink DPCH Info	
- Secondary scrambling code	2

RADIO BEARER SETUP (Step 2) (TDD)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as ""Non speech in CS " found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with the exception of the following:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

8.2.1.18.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC specified in step 1.

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.

8.2.1.19 Radio Bearer Establishment from CELL_DCH to CELL_PCH: Success

8.2.1.19.1 Definition

8.2.1.19.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_DCH state to CELL_PCH state according to the received RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.19.3 Test purpose

To conform that the UE transmits a RADIO BEARER SETUP COMPLETE message and enters CELL_PCH state after it received a RADIO BEARER SETUP message for the transition from CELL_DCH to CELL_PCH from SS.

8.2.1.19.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message. The UE transmits RADIO BEARER SETUP COMPLETE message using AM RLC and enters CELL_PCH state.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS	_	
1	•	÷	RADIO BEARER SETUP	
2	-	>	RADIO BEARER SETUP COMPLETE	
3				The UE is in CELL_PCH state.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL PCH
Downlink information for each radio link	
- Primary CPICH info	
- Primary scrambling code	100

RADIO BEARER SETUP (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

8.2.1.19.5 Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on uplink DCCH using AM RLC.

After step 2, the UE shall enter CELL_PCH state.

8.2.1.20 Radio Bearer Establishment from CELL_DCH to URA_PCH: Success

8.2.1.20.1 Definition

8.2.1.20.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_DCH state to URA_PCH state according to the received RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.20.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP COMPLETE message and enters URA_PCH state after it received a RADIO BEARER SETUP message for the transition from CELL_DCH to URA_PCH from SS.

8.2.1.20.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message. The UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC and enters URA_PCH state.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER SETUP	
2	-)	RADIO BEARER SETUP COMPLETE	
3				The UE is in URA_PCH state.

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA PCH
Downlink information for each radio link	
- Primary CPICH info	
- Primary scrambling code	100

RADIO BEARER SETUP (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

8.2.1.20.5 Test requirement

After step 1, the UE shall transmit a RADIO BEARER SETUP COMPLETE message on uplink DCCH using AM RLC.

After step 2, the UE shall enter URA_PCH state.

8.2.2 Radio Bearer Reconfiguration

8.2.2.1 Radio Bearer Reconfiguration (Hard handover) from CELL_DCH to CELL_DCH: Success

8.2.2.1.1 Definition

8.2.2.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer and L1 according to the RADIO BEARER RECONFIGURATION message, which specifies a hard handover to another radio frequency. After executing the reconfiguration, the UE shall be able to communicate with the UTRAN on the newly configured radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.1.3 Test purpose

To confirm that the UE reconfigures a new radio bearer by following a RADIO BEARER RECONFIGURATION message, which indicates a hard handover to another radio frequency.

8.2.2.1.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 6 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table	8.2.2.1
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Table 8.2.2.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.1 and broadcast BCCH on the primary CCPCH in cell 6. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which commands that hard handover to cell 6 be performed. The UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Step	Direc	ction	Message	Comment
_	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.1.
2			BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	÷	-	RADIO BEARER RECONFIGURATION	Hard handover to cell 6,
4				The UE shall stop all uplink transmissions to cell 1 and shall commence the reconfiguration of the affected physical channel parameters to that of cell 6.
5		>	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message subtype titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
 UARFCN downlink(Nd) 	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary CPICH info	
- Primary Scrambling Code	350
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Initialise

RADIO BEARER RECONFIGURATION (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message subtype titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
<u>- Timing Indicator</u>	<u>Maintain</u>

8.2.2.1.5 Test requirement

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. After step 5 the UE shall change its physical channel configuration and communicate with the SS on the DCCH and DTCH using the dedicated physical channel in cell 6.

8.2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.2.1 Definition

8.2.2.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.2.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.

8.2.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER	Including unsupported
			RECONFIGURATION	configuration by the UE
2	-)	RADIO BEARER	The UE does not change the
			RECONFIGURATION FAILURE	radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984.
- UARFCN downlink(Nd)	Not Present

RADIO BEARER RECONFIGURATION (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL DCH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.2.2.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration unsupported" set in IE "failure cause".

8.2.2.3 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.3.1 Definition

8.2.2.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION message and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to the RADIO BEARER RECONFIGURATION message received previously.

8.2.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters but it does not reconfigure L1 according to the settings found in the message. The UE shall revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "physical channel failure" in IE "failure cause".

Step	Direction		Message	Comment
	UE	SS		
1	•	<u>,</u>	RADIO BEARER RECONFIGURATION	
2				SS does not reconfigure L1 parameters to reflect the radio bearer reconfigurations specified in the message.
3	-	>	RADIO BEARER RECONFIGURATION FAILURE	The UE shall detect a failure to reconfigure the new radio bearer, and send this message using the old radio bearer configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Physical channel failure
Other information element	Not checked

8.2.2.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting value "physical channel failure" in IE "failure cause".

8.2.2.4 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.4.1 Definition

8.2.2.4.2 Conformance requirement

The UE shall perform a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.4.3 Test purpose

To confirm that the UE transmits RADIO BEARER SETUP FAILURE message after it completes a cell update procedure when the UE cannot reconfigure the new radio bearer and a subsequent failure to revert to the old configuration.

8.2.2.4.4 Method of test

Initial Condition

System Simulator: 2 cells.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

The UE is in the CELL_DCH state in a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters. After transmitting the RADIO BEARER RECONFIGURATION message, the SS shall not reconfigure L1 in accordance to the settings in the message. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
•	UE SS	Ŭ	
1	÷	RADIO BEARER RECONFIGURATION	
2			The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGURATION message and shall not use the old configuration.
3	\rightarrow	CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4	÷	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
5			The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	\rightarrow	RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RECONFIGURATION message (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	100
- PDSCH with SHO DCH info	Not Present
 PDSCH code mapping 	Not Present
 Downlink DPCH info for each RL 	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
 DL channelisation code 	
 Secondary scrambling code 	2
 Spreading factor 	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
 Scrambling code change 	No change
- TPC combination index	0
- SSDT Cell Identity	-a
 Closed loop timing adjustment mode 	Not Present
 SCCPCH information for FACH 	Not Present

CELL UPDATE CONFIRM (Step 5) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to
	move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to initial condition

RADIO BEARER RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.2.4.5 Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.2.5 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.5.1 Definition

8.2.2.5.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGURATION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Step	Direction		Direction Message	Comment	
	UE	SS			
1	€	-	RADIO BEARER SETUP	Including IE "Uplink DPCH info"	
2	÷	-	RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed	
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration because of receiving the RADIO BEARER RECONFIGURATION message	
4	-	>	RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.	

Specific Message Contents

RADIO BEARER SETUP (Step 1) (FDD)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A.

RADIO BEARER SETUP (Step 1) (TDD)

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Non speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with following exceptions:

Information Element	Value/remark	
Activation Time	Current CFN-[current CFN mod 8 + 8]	
Uplink DPCH timeslots and codes		
 First timeslot code list 	Assigned by SS	

RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions:

Information Element	Value/remark
Activation Time	Not Present.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.5.5 Test requirement

After step 1 The SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters configured as a result of the RADIO BEARER SETUP message.

8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.2.6.1 Definition

8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" having criticality defined as "Reject". The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE " failure cause" and is set to "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a RADIO BEARER RECONFIGURATION message when the RADIO BEARER RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid RADIO BEARER RECONFIGURATION message containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to invalid value.

8.2.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" which criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause" and is set to "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to invalid value. The UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Step	Direc	tion	Message	Comment
	UE	SS		
1	+	-	RADIO BEARER RECONFIGURATION	See message content.
2	۲ ۱	•	RADIO BEARER RECONFIGRATION	The UE does not change the
			FAILURE	configuration.
3	+	-	RADIO BEARER RECONFIGURATION	This message includes IE set to
				invalid value
4				The UE does not change the
				configuration.
5	۲ ۱	•	RADIO BEARER RECONFIGRATION	The IE "failure cause" shall be set
			FAILURE	to "invalid configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions, with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
 UL Transport channel identity 	1
- TFS	
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" found in Annex A with following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.2.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE "failure cause". The message shall contain the value "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.7 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Continue and stop)

8.2.2.7.1 Definition

8.2.2.7.2 Conformance requirement

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.7.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATIO message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicate with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmit a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE don't transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
2	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	
3			The SS Shall communicate with the UE.
4		RADIO BEARER RECONFIGURATION	This message include IE" RB stop/continue ".
5	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	
6			The SS shall not receive any data from the UE without Signalling message.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	20
-RB stop/continue	"continue"

RADIO BEARER RECONFIGURATION (Step 4)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	20
-RB stop/continue	"stop"

8.2.2.7.5 Test requirement

After step 2 the UE shall communicate with the SS using new configuration.

After step 5 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

8.2.2.8 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.2.8.1 Definition

8.2.2.8.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_DCH to CELL_FACH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.8.3 Test purpose

To confirm that the UE establishes the reconfigured radio bearer(s) using common physical channel, after a RADIO BEARER RECONFIGURATION message has been received from the SS.

8.2.2.8.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	*	<u>,</u>	RADIO BEARER RECONFIGURATION	
2				The UE select PRACH and S- CCPCH using SIB5 and SIB6 after entering CELL FACH state.
3	-	>	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

8.2.2.8.5 Test requirement

After step 1 the UE shall reconfigure the radio links with the SS.

After step 3 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.2.9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.2.9.1 Definition

8.2.2.9.2 Conformance requirement

The UE shall initiate cell update procedure when the UE performs cell reselection during radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.9.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURE COMPLETE message in cell2 after it completes a cell update procedure.

8.2.2.9.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active and cell 2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.9

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.2.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.9 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit RADIO BEARER RECONFIGURE COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

Step	Dire	ction	Message	Comment
-	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.9.
2	•	÷	BCCH	The SS transmit the BCCH on the primary CCPCH in the cell2.
3	•	÷	RADIO BEARER RECONFIGURATION	This message include IE" Primary CPICH info"
4	-	>	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	•	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	-	>	UTRAN MOBILITY INFORMATION CONFIRM	
7	-	>	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	150

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex<u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.2.9.5 Test requirement

After step 3, the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting IE "failure cause" to "cell reselection".

After step 7 the UE communicate with the SS on the DCCH and DTCH in cell2, using the common physical channel.

8.2.2.10 Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.10.1 Definition

8.2.2.10.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.10.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	This message includes IE "Uplink DPCH Info"
2			Reconfiguration of radio bearer
3	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A

8.2.2.10.5 Test requirement

After step 2 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH which are being carried by the DPCH physical channel resources.

8.2.2.11 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.11.1 Definition

8.2.2.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.11.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the RADIO BEARER RECONFIGURATION message received includes unsupported configuration parameters.

8.2.2.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes unsupported configuration parameters of the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RECONFIGURATION	The message includes an unsupported configuration for the UE
2	→ R R		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984
- UARFCN downlink(Nd)	Not Present

RADIO BEARER RECONFIGURATION (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.2.11.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC stating "configuration unsupported" in IE " failure cause".

8.2.2.12 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.12.1 Definition

8.2.2.12.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION message and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a RADIO BEARER RECONFIGURATION message.

8.2.2.12.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters and does not reconfigure L1. Therefore, the UE cannot reconfigure the new radio bearer and shall attempt to revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER	
		RECONFIGURATION	
2			The SS does not reconfigures L1
			including the start of tx/rx
3	\rightarrow	RADIO BEARER	The UE fails to reconfigure a
		RECONFIGURATION FAILURE	new radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.2.12.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE "failure cause".

8.2.2.13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.13.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION FAILURE message after it completes a cell update procedure.

8.2.2.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>switch</u> ed off	<u>-60</u>

Table 8.2.2.13

Table 8.2.2.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters but SS does not reconfigure L1 such as catered to the new radio bearer settings. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. Then the UE finds a new cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RECONFIGURATION	
2			The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGRATION message and delete the old configuration.
3			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.13.
4	÷	BCCH	The SS starts to transmit the BCCH in cell 2 on the primary CCPCH.
5	\rightarrow	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	\rightarrow	UTRAN MOBILITY INFORMATION CONFIRM	
8	\rightarrow	RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex \underline{A} with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 9)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER RECONFIGURATION FAILURE (Step 9)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.2.13.5 Test requirement

After step 4 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 8 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.2.14 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.14.1 Definition

8.2.2.14.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.14.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.2.14.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGUTARION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO RECONFIGURATION SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER SETUP FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER SETUP	Including IE "Uplink DPCH info"
2	÷	RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous message.
3	<i>→</i>	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration because of receiving the RADIO BEARER RECONFIGURATION message.
4	\rightarrow	RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION RADIO BEARER SETUP (Step 1) (FDD)

For <u>PHYSICAL CHANNEL RECONFIGURATION</u> <u>RADIO BEARER SETUP</u> in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A <u>with the following exceptions.</u>-

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH Info	
- Scrambling code number	1

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

For PHYSICAL CHANNEL RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions.

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	
Uplink DPCH timeslots and codes	
 First timeslot code list 	A different code combination to that used in step 1.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.14.5 Test requirement

After step 1, SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

8.2.2.15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.2.15.1 Definition

8.2.2.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject". Then it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message setting "protocol error" in IE "failure cause" and also setting "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a RADIO BEARER RECONFIGURATION message when the RADIO BEARER RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RECONFIGURATION message which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient", with criticality defined as "Reject".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to invalid value.

8.2.2.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall keep the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "protocol error" in IE "failure cause" and also set "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration when SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to invalid value. The UE transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RECONFIGURATION	See message content.
2	-)	RADIO BEARER RECONFIGRATION	The UE does not change the
			FAILURE	configuration.
3	•	÷	RADIO BEARER RECONFIGURATION	This message includes IE set to
				invalid value
4				The UE does not change the
				configuration
5	-	>	RADIO BEARER RECONFIGRATION	The IE "failure cause" shall be set
			FAILURE	to "invalid configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

RADIO BEARER RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:
Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
 UL Transport channel identity 	2
- TFS	
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RECONFIGURATION (Step 3) (TDD)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" found in Annex A with following exceptions:

Information Element	Value/remark	
-PRACH TFCS	Present	

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.2.15.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, which contain the cause "protocol error" in IE "failure cause" and "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.2.16 Radio Bearer Reconfiguration from CELL_FACH to CELL_ FACH: Success (Continue and Stop)

8.2.2.16.1 Definition

8.2.2.16.2 Conformance requirement

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.16.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.16.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicates with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS transmits a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE shall not transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER	The message includes IE "RB
		RECONFIGURATION	stop/continue" for one of the
			signalling radio bearer.
2			The UE select PRACH and S-
			CCPCH, using SIB5 or SIB6.
3	\rightarrow	RADIO BEARER	
		RECONFIGURATION COMPLETE	
4			The SS Shall communicate with
			the UE.
5	÷	RADIO BEARER	This message include IE" RB
RECONFIGURATION		RECONFIGURATION	stop/continue ".
6			The UE select PRACH and S-
			CCPCH, using SIB5 or SIB6.
7	\rightarrow	RADIO BEARER	
		RECONFIGURATION COMPLETE	
8			The SS shall not receive any
			data from the UE without
			Signalling message.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	3
-RB stop/continue	Set to "continue"

RADIO BEARER RECONFIGURATION FAILURE (Step 5)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	3
-RB stop/continue	Set to "stop"

8.2.2.16.5 Test requirement

After step 3 the UE shall communicate with the SS using new configuration.

After step 7 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

8.2.2.17 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success

8.2.2.17.1 Definition

8.2.2.17.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer and a transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.17.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.17.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.17

Parameter	<u>Unit</u>	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
<u>CPICH Ec</u> (FDD)	<u>dBm/3.84 MHz</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>
P-CCPCH (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.2.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new transport channel parameter reconfigure for transit. The UE reconfigures the new transport cannel and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1		RADIO BEARER RECONFIGURATION	
2			The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.17.The UE select PRACH and S-CCPCH using SIB5 or SIB6.
3	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CCPCH info	
-Cell parameters ID	<u>4</u>

8.2.2.17.5 Test requirement

After step <u>32</u> the UE shall <u>transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC</u> in cell <u>2</u> change its radio bearer configuration and be in CELL_FACH

After step 4 the UE shall communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.2.18 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.2.18.1 Definition

8.2.2.18.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.18.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE message in cell2 after complete a cell update procedure.

8.2.2.18.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.2.18

Parameter	Unit Cell 1 Ce		Cell 1		ll 2
		T0	T1	T0	T1
UTRA RF		Ch. 1		Ch. 1	
Channel					
Number					
CPICH <u>Ec</u> RSCP (FDD)	dBm <u>/3.84 MHz</u>	- 73<u>-60</u>	- 79<u>75</u>	<u>-</u> <u>75</u> swit ched off	- 73<u>60</u>
P-CCPCH (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.2.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting a RADIO BEARER RECONFIGURATION message to the UE, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.18 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1		RADIO BEARER RECONFIGURATION	This message include IE "Primary CPICH info"
2			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.9.
3	÷	BCCH	The SS transmit the BCCH on the primary CCPCH in the cell 2.
4	\rightarrow	CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	\rightarrow	UTRAN MOBILITY INFORMATION CONFIRM	
7	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	The IE "failure cause" shall be set to "cell reselection"

Specific Message Contents

RADIO BEARER <u>RECONFIGURATION SETUP</u> (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Value/remark
150 Not present

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL FACH from CELL FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	Not present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.18.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE transmits RADIO BEARER <u>SETUPRECONFIGURATION</u> COMPLETE message on the DCCH using AM RLC

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.2.19 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.2.19.1 Definition

8.2.2.19.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.19.3 Test purpose

If the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures

according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
-	UE SS		
1	←	RADIO BEARER RECONFIGURATION	For FDD, the IE "Secondary
			scrambling code" is set to
			<u>"1Including IE "Uplink DPCH</u>
			info"For TDD, the code
			combination is assigned by SS
1a			The SS set its Downlink DPCH
			scrambling code to "1".
2	÷	RADIO BEARER RECONFIGURATION	Sent before the "activation time"
			in step 1 has elapsed. For FDD,
			t the IE "Secondary scrambling
			code" is set to "2". For TDD the
			code combination assigned is
			different to that assigned in step
			<u>1.</u>
3	\rightarrow	RADIO BEARER RECONFIGURATION	The UE ignores the RADIO
		COMPLETE	BEARER RECONFIGURATION
			message in step 2 and confirms
			configuration according to the
			RADIO BEARER
			RECONFIGURATION message in
			step 1.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark	
Activation Time	Not Present	
- DL channelisation code		
- Secondary scrambling code	2	
RADIO BEARER RECONFIGURATION (Step 2) (TDD)		

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

8.2.2.19.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.

8.2.2.20 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.2.20.1 Definition

8.2.2.20.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.20.3 Test purpose

To confirm that if the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.20.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures

according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	For FDD, the IE "Secondary scrambling code" is set to " <u>1Including IE "Uplink DPCH info"</u> For TDD, the code combination is assigned by SS
1a <u>(FDD)</u>		The SS set its Downlink DPCH scrambling code to "1".	
<u>1a</u> (TDD)		A code combination is assigned for the SS.	
2	÷	RADIO BEARER RECONFIGURATION	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different to that assigned in step 1.
3	<i>→</i>	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

Specific Message Contents

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

RADIO BEARER RECONFIGURATION (step 1) (FDD)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
- First timeslot code list	Assigned by SS

RADIO BEARER RECONFIGURATION (Step 2) (FDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
 Secondary scrambling code 	2

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

8.2.2.20.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.

8.2.2.21 Radio Bearer Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.2.21.1 Definition

8.2.2.21.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to CELL_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.21.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.21.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	<u>_</u>	RADIO BEARER RECONFIGURATION	
2	-	>	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3				Reconfiguration of Radio Bearer after state transition.
4	•	_	PAGING TYPE 1	The SS transmits this message included a matched identity.
5	-	>	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.21.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.2.22 Radio Bearer Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.2.22.1 Definition

8.2.2.22.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to URA_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure a radio bearer according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.22.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.2.22.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the URA_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER	
		RECONFIGURATION	
2	\rightarrow	RADIO BEARER	The UE sends this message
		RECONFIGURATION COMPLETE	before state transition.
3			Reconfiguration of Radio Bearer
			after state transition.
4	←	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
 Primary CCPCH info 	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.22.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transits from CELL_DCH to URA_PCH.

8.2.2.23 Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.2.23.1 Definition

8.2.2.23.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to CELL_PCH when receive a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.23.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.33.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER	
		RECONFIGURATION	
2	\rightarrow	RADIO BEARER	The UE sends this message
		RECONFIGURATION COMPLETE	before state transition.
3			Reconfiguration of Radio Bearer
			after state transition.
4	←	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	<u>4</u>

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.23.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.2.24 Radio Bearer Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.2.24.1 Definition

8.2.2.24.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to URA_PCH when receive a RADIO BEARER RECONFIGURATION message. And the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.24.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state in the same cell.

8.2.2.24.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	
2	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3			Reconfiguration of Radio Bearer after state transition.
4	÷	PAGING TYPE 1	The SS transmits this message included a matched identity.
5	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with following exceptions:

Information Element	Value/remark	
RRC State Indicator	URA_PCH	

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL FACH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.24.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_FACH to URA_PCH.

8.2.3 Radio Bearer Release

- 8.2.3.1 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success
- 8.2.3.1.1 Definition
- 8.2.3.1.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.1.3 Test purpose

To confirm that the UE release the existing radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	ť	RADIO BEARER RELEASE	
2				Release the radio bearer
3	-)	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message are indicated as "Speech in CS" found in default message content clause 9 of TS 34.108.

8.2.3.1.5 Test requirement

After step 1 the UE shall release its radio bearers.

After step 3 the UE shall stop communicating on the released radio bearers, no uplink transmission shall be observed originating from the released link. The remaining radio bearers shall continue to be operational.

8.2.3.2 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.2.1 Definition

8.2.3.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which includes unsupported configuration parameters and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value "configuration unsupported" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.2.3 Test purpose

To confirm that the UE keeps its current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message indicates an unsupported configuration parameters for the UE.

8.2.3.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency which is not supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC indicating "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RELEASE	Including unsupported configuration by the UE
2	-	>	RADIO BEARER RELAESE FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RELEASE (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984
- UARFCN downlink(Nd)	Not Present

RADIO BEARER RELEASE (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark	
Frequency info		
- UARFCN (Nt)	<u>0</u>	

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.3.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with the IE "failure cause" set to "configuration unsupported". The UE shall able to continue receiving and sending user data.

8.2.3.3 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.3.1 Definition

8.2.3.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer by timer T312 expiry and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer according to a RADIO BEARER RELEASE message by timer T312 expiry.

8.2.3.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message but it does not configure L1 correspondingly. This causes the UE to fail to release the radio bearer, and after T312 expiry the UE reverts to the old configuration. The UE then transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which specifies "physical channel failure" in IE "failure cause".

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	Т	RADIO BEARER RELEASE	
2				The SS does not configure L1 to reflect the release of the indicated bearer.
3	-	>	RADIO BEARER RELEASE FAILURE	After T312 expiry, the UE finds that it fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which includes the value "physical channel failure" in IE "failure cause".

8.2.3.4 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure(Physical channel failure and reversion failure)

8.2.3.4.1 Definition

8.2.3.4.2 Conformance requirement

The UE shall perform a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.4.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after completes a cell update procedure when the UE cannot revert to the old configuration after encountering a physical channel failure during the execution of a radio bearer release procedure.

8.2.3.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a RADIO BEARER RELAESE message to the UE but does not configure L1 in accordance with the settings in the message. As a result, the UE recognize that it cannot reconfigure the radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration and the UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL

CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RELEASE	
2			The SS does not configure the dedicated physical channel in accordance with The RADIO BEARER RELEASE message and shall not use old configuration.
3	<i>→</i>	CELL UPDATE	This message include the value "radio link failure" set in IE "Cell update cause".
4	÷	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
5			The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	\rightarrow	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case are identical as "Speech in CS" found in default message content clause 9 of TS 34.108.

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex<u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	100
- PDSCH with SHO DCH info	Not Present
 PDSCH code mapping 	Not Present
 Downlink DPCH info for each RL 	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
 DL channelisation code 	
 Secondary scrambling code 	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
 Scrambling code change 	No change
- TPC combination index	0
- SSDT Cell Identity	-a
 Closed loop timing adjustment mode 	Not Present
 SCCPCH information for FACH 	Not Present

CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
<u>U-RNTI</u>	Same as CELL UPDATE message in step 3
RRC State indicator	CELL DCH
UplinkDPCH timeslots and codes	Same as RADIO BEARER SETUP message used to
	move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to intial condition

RADIO BEARER RELEASE FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RELEASE FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.3.4.5 Test requirement

After step 2 the UE shall transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 9 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.3.5 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.5.1 Definition

8.2.3.5.2 Conformance requirement

If the UE receives a RADIO BEARER RELAESE message whilst reconfiguring due to a radio bearer message other than RADIO RELEASE SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration according to the previously received message.

8.2.3.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER SETUP message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER SETUP	
2	÷	RADIO BEARER RELEASE	Message sent before the "Activation time" indicated in the message of step 1 has elapsed.
3	<i>→</i>	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER RELEASE message.
4	→	RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER <u>RECONFIGURATION SETUP</u> (Step 1) (FDD)

The contents of RADIO SETUP RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A, with the following exceptions:

-	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message subtype titled "Packet to CELL DCH from CELL DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	<u>Maintain</u>

RADIO BEARER RELEASE (Step 2) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A. Information element(s) to be changed are listed below:

RADIO BEARER RECONFIGURATION (Step 2) (TDD)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.5.5 Test requirement

After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.6.1 Definition

8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". It shall transmit a RADIO BEARER RELEASE FAILURE message which contains value "protocol error" in IE " failure cause" and value "Information element value not comprehended" in IE " Protocol error cause". The UE shall keep existing configuration before reception of a RADIO BEARER RELEASE message when the RADIO BEARER RELEASE message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message, which uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message including some IEs set to invalid value.

8.2.3.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid RADIO BEARER RELEASE message to the UE which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall indicate "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits RADIO BEARER RELEASE message including some IEs set to invalid value. The UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	€		RADIO BEARER RELEASE	See message content.
2	-	>	RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.
3	•		RADIO BEARER RELEASE	This message includes IE set to invalid value
4				The UE does not change the configuration
5	-	>	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step1)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

RADIO BEARER RELEASE FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

RADIO BEARER RELEASE (Step 3) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
 UL Transport channel identity 	1
- TFS	
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RELEASE (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RELEASE FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.3.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which is set to "protocol error" in IE "failure cause" and is set to "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

8.2.3.7 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success

8.2.3.7.1 Definition

8.2.3.7.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message, when the common physical channel are requested to be used for the remaining radio bearers.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.7.3 Test purpose

To confirm that the UE release the existing the radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DTCH+DCCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RELEASE	SS releases the radio bearer in the fashion specified in the message and allocate common channel resources to carry the remaining radio bearers.
2			The UE select PRACH and S- CCPCH using SIB5 and SIB6 after entering CELL FACH state. The UE shall release radio bearers on dedicated transport channels, and reconfigure the remaining radio bearers using the selected common control channel.
3	\rightarrow	RADIO BEARER RELEASE COMPLETE	UE shall be able to continue communication over the remaining radio bearers using the common control channels.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A

8.2.3.7.5 Test requirement

After step 3 the UE shall release the specified radio bearer(s) and cease any further uplink transmission from these radio bearer(s).

8.2.3.8 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.3.8.1 Definition

8.2.3.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer release procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer release procedure and correctly release the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.8.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after the UE completes a cell update procedure.

8.2.3.8.4 Method of test

Initial Condition

System Simulator: 2 cells No.1 is active, No.2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.3.8	

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.3.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell No.1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.8 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmit a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH. The UE reselects cell 2 and initiates the cell update procedure. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1				The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.3.8
2	•	÷	BCCH	The SS starts to broadcast
				BCCH on the primary CCPCH in
				cell2.
3	•	÷	RADIO BEARER RELEASE	Assigned the transition from
				CELL_DCH to CELL_FACH
4	-	→	CELL UPDATE	The value "cell reselection" shall
				be set in IE "cell update cause".
5	•	÷	CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI"".
6	-	>	UTRAN MOBILITY INFORMATION	
			CONFIRM	
7		>	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 3) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

RADIO BEARER RELEASE (Step 3) (TDD)

Use the same message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A with the		
following exceptions:		
Information Element	Value/remark	
Downlink information for each radio links		
- Primary CCPCH info		
- Cell parameters ID	4	

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in annex \underline{A} with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.3.8.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.3.9 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.9.1 Definition

8.2.3.9.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.9.3 Test purpose

To confirm that an UE, in state CELL_FACH, releases the radio access bearers on RACH and FACH transport channels. After the release, it shall access the affected radio bearers on the newly allocated DCH transport channel.

8.2.3.9.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. In this message, SS commands the UE to release radio bearers on RACH and FACH. At the same time, SS allocates DCH to support the affected radio bearers. The UE shall release the indicated radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		÷	RADIO BEARER RELEASE	
2				UE shall release the radio access bearers carried by RACH and FACH transport channels.
3		\rightarrow	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A

8.2.3.9.5 Test requirement

After step3 the UE shall stop communicating on the released radio bearers, and resume all stopped radio bearer using the dedicated physical channel allocated.

8.2.3.10 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.10.1 Definition

8.2.3.10.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message which specifies unsupported configuration parameters for the UE. Then the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which, setting value "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message requests for unsupported configuration parameters for the UE.

8.2.3.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE, referring to a frequency which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment	
	UE	SS			
1	÷		RADIO BEARER RELEASE	The message contains a configuration not supported by the UE	
2	→		RADIO BEARER RELAESE FAILURE	The UE shall not change the radio bearer configuration.	

Specific Message Contents

RADIO BEARER RELEASE (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984
- UARFCN downlink(Nd)	Not Present

RADIO BEARER RELEASE (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark		
Message Type			
Failure cause	Configuration unsupported		
Other information element	Not checked		

8.2.3.10.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, stating the reason "configuration unsupported" in IE "failure cause".

8.2.3.11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.11.1 Definition

8.2.3.11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer before T312 timer expiry. Then it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer in accordance the specified settings in RADIO BEARER RELEASE message by T312 timer expiry.

8.2.3.11.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message and does not configure L1. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer expiry, the UE shall revert to the old radio bearer configuration, so the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RELEASE	
2			The SS does not configure L1.
3	<i>→</i>	RADIO BEARER RELEASE FAILURE	After T312 expiry the UE fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in annex A

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark		
Message Type			
Failure cause	Physical channel failure		
Other information element	Not checked		

8.2.3.11.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.3.12.1 Definition

8.2.3.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.12.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message after it completes a cell update procedure following a physical channel failure during the radio bearer release.

8.2.3.12.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell.1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell No.1.

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <u>Ec</u> (FDD)	dBm <u>/3.84 MHz</u>	- <u>60</u>	- <u>75</u>	<u>-75</u>	- <u>60</u>
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.3.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RELAESE message to the UE, but it does not configure L1 in accordance to the settings in the message. This is expected to cause the UE to experience a failure to release the radio bearer and it subsequently tries to revert to the old configuration. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.12 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE shall find cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits RADIO RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "cell reselection".
Expected sequence

Step	Direction	Message	Comment
-	UE SS		
1	←	RADIO BEARER RELEASE	
2			The SS does not configure L1 in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.12.
3	÷	BCCH	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4	<i>→</i>	CELL UPDATE	The UE finds a new cell 2 and enter CELL_FACH state. This message include the value "cell reselection" set in IE "Cell update cause".
5	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	\rightarrow	UTRAN MOBILITY INFORMATION CONFIRM	
7	\rightarrow	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex \underline{A} with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

RADIO BEARER RELEASE FAILURE (Step 7)

Information Element	Value/remark
Message Type	"RADIO BEARER RELEASE FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.3.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.3.13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.13.1 Definition

8.2.3.13.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.13.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE, RELEASE message had not been received and complete the reconfiguration according to the previously received message.

8.2.3.13.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RELEASE message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER SETUP message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER SETUP	The UE receive any message other than RADIO BEARER RELEASE. (e.g. RADIO BEARER SETUP)
2	÷	RADIO BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of message in step 1.
3	<i>→</i>	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER SETUP message
4	\rightarrow	RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER <u>RECONFIGURATION SETUP</u> (Step 1) (FDD)

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark	
Activation Time	Current CFN-[current CFN mod 8 + 8]	

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
- First timeslot code list	Assigned by SS

RADIO BEARER RELEASE (Step 2) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.13.5 Test requirement

After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO SETUP message.

8.2.3.14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.3.14.1 Definition

8.2.3.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". It shall transmit a RADIO BEARER RELEASE FAILURE message which indicate the value "protocol error" in IE "failure cause" and setting "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a RADIO BEARER RELEASE message when the RADIO BEARER RELEASE message include some IEs set to invalid value, and then the UE shall transmit RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.14.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message including some IEs set to invalid value.

8.2.3.14.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS_DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits an invalid RADIO BEARER RELAESE message to the UE containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which shall indicate the reason "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits RADIO BEARER RELEASE message including some IEs set to invalid value. The UE transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RELEASE	See message content.
2	\rightarrow	RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.
3		RADIO BEARER RELEASE	This message includes IE set to invalid value
4			The UE does not change the configuration
5	\rightarrow	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

RADIO BEARER RELEASE (Step 3)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX Indicator	Out of range value

RADIO BEARER RELEASE FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

RADIO BEARER RELEASE (Step 3) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
- UL Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	4
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

RADIO BEARER RELEASE (Step 3) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER RELEASE FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.3.14.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also indicating "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.3.15 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.15.1 Definition

8.2.3.15.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.15.3 Test purpose

To confirm that the UE release the existing the radio bearer(s) according to the RADIO BEARER RELEASE message received from the SS.

8.2.3.15.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	ť.	RADIO BEARER RELEASE	
2				The UE select PRACH and S- CCPCH using SIB5 and SIB6. The UE shall release the requested radio bearer(s), and stop transmitting using these radio bearer(s).
3	-	>	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A

8.2.3.15.5 Test requirement

After step 1 the UE shall cease the transmission and reception of the affected radio bearers. After step 3 the UE shall stop communicating on radio bearers to be released.

8.2.3.16 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.3.16.1 Definition

8.2.3.16.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.16.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

8.2.3.16.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE ignores the second RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1	ŧ	<u>.</u>	RADIO BEARER RELEASE	For FDD the SS set its Downlink DPCH scrambling code to "1".
1a				The SS set its Downlink DPCH scrambling code to "1".
2	÷	<u>-</u>	RADIO BEARER RELEASE	Message sent before. the expiry of "activation time" specified in message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different ftrom that assigned in stage 1.
3	-	>	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release according to the RADIO BEARER RELEASE message in step 1.

Specific Message Contents

RADIO BEARER RELEASE (Step 1) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RELEASE (Step 1) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title " Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned by SS

RADIO BEARER RELEASE (Step 2) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

RADIO BEARER RELEASE (Step 2) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

8.2.3.16.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.3.17 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.3.17.1 Definition

8.2.3.17.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.17.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

8.2.3.17.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE ignores the second RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		ep Direction Message	Comment
	UE	SS		
1		÷	RADIO BEARER RELEASE	For FDD mode the SS set its
				Downlink DPCH scrambling code
				<u>to "1".</u>
1a				The SS set its Downlink DPCH
				scrambling code to "1".
2		÷	RADIO BEARER RELEASE	Sent before the expiry stated in IE
				"Activation Time" of RADIO
				BEARER RELEASE message in
				step 1. <u>For FDD t</u> ∓he IE
				"Secondary scrambling code" is
				set to "2". For TDD, the code
				combination assigned is different
				from that assigned in stage 1.
3		\rightarrow	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO
				BEARER RELEASE message in
				step 2 and confirms release
				according to the RADIO BEARER
				RELEASE message in step 1.

Specific Message Contents

RADIO BEARER RELEASE (Step 1) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RELEASE (Step 1) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark		
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256		
Uplink DPCH timeslots and codes			
 First timeslot code list 	Assigned by SS		

RADIO BEARER RELEASE (Step 2) (FDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

RADIO BEARER RELEASE (Step 2) (TDD)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark		
Activation Time	Not Present		
 Uplink DPCH timeslots and codes 			
 First timeslot code list 	A different code combination to that used in step 1.		

8.2.3.17.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.3.18 Radio Bearer Release from CELL_DCH to CELL_PCH: Success

8.2.3.18.1 Definition

8.2.3.18.2 Conformance requirement

The UE shall transmit RADIO BEARER RELEASE COMPLETE message before completes transition from CELL_DCH to CELL_PCH when receives a RADIO BEARER RELEASE message. And then, the UE shall release radio bearers according to the RADIO BEARER Release message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.3.18.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.3.18.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmits RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Step Direction		p Direction Message		Message	Comment		
	UE	SS						
1 ← RADIO E RELEAS			RADIO BEARER RELEASE					
2 → RAD REL			RADIO BEARER RELEASE COMPLETE	The UE sends this message before completes state transition.				
3	3 ← PAGING TYPE		PAGING TYPE 1	The SS transmits this message included a matched identity.				
4	\rightarrow		CELL UPDATE	The UE is in CELL_FACH state.				

Specific Message Contents

RADIO BEARER RELEASE (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark		
RRC State Indicator	CELL_PCH		

RADIO BEARER RELEASE (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark	
RRC State Indicator	CELL_PCH	
Downlink information for each radio links		
- Primary CCPCH info		
-Cell parameters ID	4	

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.3.18.5 Test requirement

After step 1 the UE transmits RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

8.2.3.19 Radio Bearer Release from CELL_DCH to URA_PCH: Success

8.2.3.19.1 Definition

8.2.3.19.2 Conformance requirement

The UE shall transmit RADIO BEARER RELEASE COMPLETE message before completes transition from CELL_DCH to CELL_PCH when receives a RADIO BEARER RELEASE message. And then, the UE shall release radio bearers according to the RADIO BEARER Release message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.3.19.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.3.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmit RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction	Message	Comment		
	UE SS				
1 ← RAI REL		RADIO BEARER RELEASE			
2	<i>→</i>	RADIO BEARER RELEASE COMPLETE	The UE sends this message before completes state transition.		
3	÷	← PAGING TYPE 1 The SS transmits this m included a matched ider			
4	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.		

Specific Message Contents

RADIO BEARER RELEASE (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark		
RRC State Indicator	URA_PCH		

RADIO BEARER RELEASE (Step 1) (TDD)

Information Element	Value/remark
RRC State Indicator	CELL PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.3.19.5 Test requirement

After step 1 the UE transmits RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

8.2.4 Transport channel reconfiguration

- 8.2.4.1 Transport channel reconfiguration from CELL_DCH to CELL_DCH (Hard handover to same radio frequency): Success with no transport channel type switching
- 8.2.4.1.1 Definition

8.2.4.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover to another cell. After the completion of this procedure, the UE shall be able to communicate with the SS on the new transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.1.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message, which also specifies that a hard handover to another cell be performed simultaneously.

8.2.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active and cell 2 is inactive

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.4.1

Table 8.2.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.1 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters to be applied in cell 2. The UE shall reconfigure the new transport channel and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 2 using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.1
2	÷	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
3	÷	TRANSPORT CHANNEL RECONGURATION	Hard handover to cell 2. Including UE information elements("TFS"I)
4			UE shall stop all uplink transmissions and reconfigure itself to use the new transport channel parameters
5	\rightarrow	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
-Uplink transport Channels	
 Added or Reconfigured TrCH information list 	Number of Transport blocks = 2
-Downlink transport Channels	
 Added or Reconfigured TrCH information list 	
	Number of Transport blocks = 2
Downlink information for each radio links	Same downlink UARFCN as used for cell 2
- Primary CPICH info	
 Primary Scrambling Code 	150
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Initialise

TRANSPORT CHANNEL RECONFIGURATION (TDD)

<u>The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the</u> message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used previously.
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Maintain

8.2.4.1.5 Test requirement

After step 3 the UE shall reconfigure the radio links affected by the changes for uplink and downlink DCH. The UE shall stop transmitting on the uplink of cell 1.

After step 5 the UE shall continue to communicate with the SS on the DCCH and DTCH in cell 2, using the new Transport Format Set (TFS) applicable on the existing transport channel.

8.2.4.2 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.4.2.1 Definition

8.2.4.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.2.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.

8.2.4.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters of the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	(TRANSPORT CHANNEL RECONGURATION	Including unsupported configuration by the UE
2	-	<i>></i>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
-Uplink transport Channels	
 Added or Reconfigured TrCH information list 	
	Number of Transport blocks = 4096
-Downlink transport Channels	
-Added or Reconfigured TrCH information list	Selected value as the UE can not support.
, i i i i i i i i i i i i i i i i i i i	Number of Transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.4.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration unsupported" in IE "failure cause".

8.2.4.3 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.3.1 Definition

8.2.4.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received TRANSPORT CHANNEL RECONFIGURATION message and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters but it does not reconfigure the new transport channel. Therefore, the UE cannot reconfigure them and have to revert to the old configuration. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE " failure cause".

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	TRANSPORT CHANNEL RECONGURATION	Specifies a change in the TFS of the dedicated transport channel used.
2				The SS does not reconfigure the transport channel, leading to the UE unable to reconfigure the new transport channel.
3	-	→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE reverts to the old configuration and transmits this message.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and it shall set the value "physical channel failure" in IE "failure cause".

8.2.4.4 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.4.1 Definition

8.2.4.4.2 Conformance requirement

The UE shall perform a cell update upon failure of reconfiguration for a transport channel because of physical channel failure and reversion. After the UE completes cell update procedure, the UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.4.3 Test purpose

To confirm that the UE transmits RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure when the UE cannot reconfigure the new transport channel due to a failure of L1 configuration and subsequently fail to revert to the old configuration.

8.2.4.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The message specifies a new set of transport channel parameters but the SS does not reconfigure L1 correspondingly. The UE cannot reconfigure the new transport channel and shall attempt to revert to the old configuration. But SS shall not revert to old configuration. The UE cannot revert to the old configuration and then transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL	Specifies the use of a new
		RECONFIGURATION	setting for transport channel.
2			The SS does not reconfigure L1
			in accordance with
			TRANSPORT CHANNEL
			RECONFIGURTION message
			and shall not use old
-	<u>`</u>		configuration.
3	\rightarrow	CELL UPDATE	This message includes the
			value "radio link failure" set in IE
	,		"Cell update cause".
4	←	CELL UPDATE CONFIRM	This message include IE
			"Physical channel information
			elements".
5			The SS change physical
			channel configuration according
			to the IE "Physical channel
			information elements" included
			In the CELL UPDATE
-	<u>,</u>		CONFIRM message.
6	→	PHYSICAL CHANNEL	
		RECONFIGURATION COMPLETE	
7	\rightarrow	TRANSPORT CHANNEL	The IE "failure cause" shall be
		RECONFIGURATION FAILURE	set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex<u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 4) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
 Downlink DPCH info for each RL 	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
 DL channelisation code 	
 Secondary scrambling code 	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
 Scrambling code change 	No change
- TPC combination index	0
- SSDT Cell Identity	-a
 Closed loop timing adjustment mode 	Not Present
 SCCPCH information for FACH 	Not Present

CELL UPDATE CONFIRM (Step 4) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to
	move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to initial condition

TRANSPORT CHANNELRECONGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONGURATION"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.4.4.5 Test requirement

After step 2 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

8.2.4.5 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.5.1 Definition

8.2.4.5.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.5.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.4.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a state of the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfiguration is the transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration".

the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info" <u>for</u> FDD mode and
2	÷	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3	<i>→</i>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration due to the reception of TRANSPORT CHANNEL RECONFIGURATION message.
4	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
 First timeslot code list 	Assigned by SS

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the corresponding message found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH timeslots and codes	
 First timeslot code list 	A different code combination that used previously.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.5.5 Test requirement

After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.4.6 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.6.1 Definition

8.2.4.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which makes use of a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.6.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message comprises an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.4.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE "failure cause" and also indicating "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL RECONFIGURATION	See message content.
2	\rightarrow	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.
3	÷	TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4			The UE does not change the configuration
5	\rightarrow	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
- UL Transport channel identity	1
- TFS	
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.4.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE "failure cause" and set value "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.4.7 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.4.7.1 Definition

8.2.4.7.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION message, after it is requested to perform a transition from CELL_DCH to CELL_FACH in the same cell in conjunction with the transport channel reconfiguration.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.7.3 Test purpose

To confirm that the UE reconfigures a new Transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits TRANSPORT CHANNEL RECONFIGURATION message to the UE and the UE performs a state transition from CELL_DCH to CELL_FACH in the same cell. The UE then reconfigures the new transport channel according to this message and reconfigure the new physical channel according to the system information messages. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	p Direction		Message	Comment
	UE	SS		
1	•		TRANSPORT CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration of transport channel
3	-	>	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A

8.2.4.7.5 Test requirement

After step 3 the UE shall transit from CELL_DCH to CELL_FACH in the same cell, and then continue to communicate with SS on the new transport channel and common physical channels.

8.2.4.8 Void

8.2.4.9 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.4.9.1 Definition

8.2.4.9.2 Conformance requirement

The UE shall initiate a cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.9.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure.

8.2.4.9.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.4.9

Table 8.2.4.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.9 and broadcast BCCH on the primary CCPCH in cell 2. Then, the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The UE shall select cell 2 by performing cell re-selection and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

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Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.0
2		ВССН	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
3	÷	TRANSPORT CHANNEL RECONGURATION	This message include IE" Primary CPICH info".
4	\rightarrow	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	\rightarrow	UTRAN MOBILITY INFORMATION CONFIRM	
7	\rightarrow	TRANSPORT CHANNEL COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	150

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links	
 Primary CCPCH info 	
- Cell parameters ID	<u>4</u>

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.4.9.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit TRANSPORT CHANNEL COMPLETE message on the DCCH using AM.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.4.10 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success

8.2.4.10.1 Definition

8.2.4.10.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION message, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.10.3 Test purpose

To confirm that the UE reconfigures a new transport channel using dedicated physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes IE "Uplink DPCH info" and IE "Downlink DPCH info" leading to a state transition from CELL_FACH to CELL_DCH in the same cell. The UE shall reconfigure the new transport channel according to this message and then reconfigure the new physical channel according to the system information message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	p Direction		on Message	Comment	
	UE	SS			
1	•	÷	TRANSPORT CHANNEL	Includes both IE "Uplink DPCH	
			RECONFIGURATION	Info" and IE "Downlink DPCH	
				Info" in the message.	
2				Reconfiguration of transport	
				channel	
3	-	>	TRANSPORT CHANNEL		
			RECONFIGURATION COMPLETE		

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

8.2.4.10.5 Test requirement

After step 3 the UE shall transit from CELL_FACH to CELL_DCH in the same cell, and continue to communicate with SS using the new transport channel configuration based on DPCH physical channels.

8.2.4.11 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.4.11.1 Definition

8.2.4.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.11.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC when it receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters.

8.2.4.11.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a TRANSPORT

CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL RECONGURATION	The message includes unsupported configuration by the UE
2	\rightarrow	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
-Uplink transport Channels	
-Added or Reconfigured TrCH information list	
	Number of transport blocks= 4096
-Downlink transport Channels	
-Added or Reconfigured TrCH information list	
	Number of transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
<u> </u>	0

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.4.11.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "configuration unsupported" in IE "failure cause" of the message.

8.2.4.12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old channel)

8.2.4.12.1 Definition

8.2.4.12.2 Conformance requirement

The UE shall revert to the old configuration when the UE has failed to reconfigure the new transport channel requested, and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.12.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes the new transport channel parameters. However, SS does not reconfigure the new transport channel accordingly. Hence, the UE shall experience a failure in the reconfiguration process. After T312 expiry, the UE shall revert to the old channel configuration. Then the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment	
	UE SS			
1	÷	TRANSPORT CHANNEL RECONGURATION	Message includes IE "Downlink DPCH Info" and IE "Uplink DPCH Info"	
2			SS does not reconfigure the transport channel causing the UE to detect a physical channel failure.	
3	<i>→</i>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE shall revert to the old configuration and transmit this message.	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	TRANSPORT CHANNEL RECONFIGURATION
	FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.12.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

8.2.4.13 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.13.1 Definition

8.2.4.13.2 Conformance requirement

The UE shall initiate a cell update procedure when it selects another cell, following a physical channel failure in the transport channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.13.3 Test purpose

To confirm that the UE transmits RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure, when the UE cannot reconfigure the new transport channel for the failure of L1 configuration.

8.2.4.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 1 Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <u>Ec</u> (FDD) <mark>RSCP</mark>	DBm <u>/</u> <u>3.84</u> <u>MHz</u>	- <u>60</u> 73	- <u>75</u> 79	<u>75</u> swit ched off	<u>-60</u> -73
<u>P-CCPCH</u> <u>RSCP (TDD)</u>	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.4.13

Table 8.2.4.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in a cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new set of transport channel parameters. However, the SS does not reconfigure L1 and the new transport channel accordingly. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. As a result, the UE cannot reconfigure the new transport channel. The UE find that cell 2 is available, camp onto it, and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Dire	Direction Message	Comment	
	UE	SS		
1	÷		TRANSPORT CHANNEL RECONGURATION	
2				The SS does not reconfigure L1 and transport channel in accordance with the settings in the message, and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.13.
3	*	-	BCCH	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4				The UE shall find cell 2, camp onto it,
5		>	CELL UPDATE	This message include the value "cell reselection" set in IE "Cell update cause".
6	•	, ,	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	-	>	UTRAN MOBILITY INFORMATION CONFIRM	
8		>	TRANSPORT CHANNEL RECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex \underline{A} with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI
TRANSPORT CHANNELRECONGURATION FAILURE (Step 8)

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONGURATION"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.4.13.5 Test requirement

After step 4 the UE shall transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.4.14 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.14.1 Definition

8.2.4.14.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.14.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.4.14.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE

reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1		RADIO BEARER RECONFIGURATION	Includes the IE "Uplink DPCH info".
2	÷	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the Activation time specified in step 1.
3	<i>→</i>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER SETUP message.
4	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL DCH from CELL FACH in PS" found in Annex A with the following exceptions

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- First timeslot code list	Assigned by SS

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination that used previously .

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.14.5 Test requirement

After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.4.15 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.4.15.1 Definition

8.2.4.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which includes an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.15.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.4.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall keep the old configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL RECONFIGURATION	See message content.
2	\rightarrow	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.
3	÷	TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4			The UE does not change the configuration
5	\rightarrow	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Added or Reconfigured UL TrCH information	
 Uplink transport channel type 	DCH
 UL Transport channel identity 	1
- TFS	
 Dynamic Transport format information 	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
 CHOICE Logical Channel list 	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.4.15.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the message shall specify "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.4.16 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.16.1 Definition

8.2.4.16.2 Conformance requirement

The UE shall remain in CELL_FACH state and transition from CELL_FACH to CELL_FACH in the another cell requested in the received TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.16.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.16.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.4.16

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
<u>CPICH Ec</u> (FDD)	<u>dBm/</u> <u>3.84</u> MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters. The UE reconfigures the new transport channel and the new physical channel according to the system information messages. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction	Direction Message	Comment		
-	UE SS	7			
1	←	TRANSPORT CHANNEL			
		RECONGURATION			
2			Reconfiguration of a new		
			transport channel		
3	\rightarrow	TRANSPORT CHANNEL			
		RECONFIGURATION COMPLETE			

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

TRANSPORT CHANNEL RECONFIGURATION (TDD)

Use the message sub-type titled "Packet to CELL FACH from CELL FACH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	4

8.2.4.16.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_FACH and continue to communicate with the SS on the DCCH using the existing transport channel.

8.2.4.17 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.4.17.1 Definition

8.2.4.17.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE complete cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.17.3 Test purpose

To confirm that the UE transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure.

8.2.4.17.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

Table 8.2.4.17					
Parameter Unit Cell 1 Cell 2					
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH EcRSCP (FDD)	DBm <u>/</u> <u>3.84</u> <u>MHz</u>	- <u>60</u> 7 3	- <u>75</u> 79	- <u>75</u> switch ed off	- <u>60</u> 7 3
P-CCPCH	dBm	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

$\frac{P-UCPCH}{RSCP (TDD)} \qquad \frac{aBm}{B} \qquad \frac{-50}{-75} \qquad \frac{-75}{-75} \qquad \frac{-60}{-50}$

Table 8.2.4.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting a TRANSPORT CHANNEL RECONFIGURATION message, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.17 and broadcast BCCH on the primary CCPCH in cell 2. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure.. The UE transmit CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	TRANSPORT CHANNEL	This message include IE
			RECONFIGURATION	"Primary CPICH info"
2				The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.4.17.
3	•	÷	BCCH	The SS starts to broadcast
				BCCH on the primary CCPCH in
				cell2.
4		\rightarrow	CELL UPDATE	The value "cell reselection" shall
				be set in IE "Cell update cause".
5	•	÷	CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI".
6		\rightarrow	UTRAN MOBILITY INFORMATION	
			CONFIRM	
7		\rightarrow	TRANSPORT	
			CHANNELRECONFIGURATION	
			COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	150

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	Not present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A for FDD and Annex</u> <u>A for TDD</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.4.17.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit TRANSPORT CHANNEL FAILURE message on the DCCH using AM RLC.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.4.18 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.4.18.1 Definition

8.2.4.18.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.18.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.18.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

[Step Direction		Direction Message		Comment		
		UE	SS				
	1	•		TRANSPORT CHANNEL RECONFIGURATION	For FDD the "Secondary scrambling code is set to "1"Including IE "Uplink DPCH info"and for TDD, the code combination is assigned by SS		
Ī	1a				The SS set its Downlink DPCH scrambling code to "1".		
	2	•	.	TRANSPORT CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in TRANSPORT CHANNEL SETUP message of step 1. For FDD tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different from that assigned in stage 1.		
	3	-	`	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.		

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
- First timeslot code list	Assigned in step 1

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
 Secondary scrambling code 	2

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

8.2.4.18.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

8.2.4.19 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.4.19.1 Definition

8.2.4.19.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.19.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	+	TRANSPORT CHANNEL RECONFIGURATION	For FDD the "Secondary scrambling code is set to "1"and for TDD, the code combination is assigned by SS Includes the IE "Uplink DPCH info"
1a			The SS set its Downlink DPCH scrambling code to "1".
2	¥	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1. For FDD tThe IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different that assigned in stage 1.
3	→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark	
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256	

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned in step 1

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (FDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

TRANSPORT CHANNEL RECONFIGURATION (Step 2) (TDD)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	A different code combination to that used in step 1.

8.2.4.19.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

- 8.2.4.20 Transport Channel Reconfiguration from CELL_DCH to CELL_PCH: Success
- 8.2.4.20.1 Definition

8.2.4.20.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to CELL_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.4.20.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.4.20.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	TRANSPORT CHANNEL	
			RECONFIGURATION	
2	-	\rightarrow	TRANSPORT CHANNEL	The UE sends this message
			RECONFIGURATION COMPLETE	before start state transition.
3				Reconfiguration of Transport
				channel after state transition.
4	•	÷	PAGING TYPE 1	The SS transmits this message
				included a matched identity.
5	-	→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark	
RRC State Indicator	CELL_PCH	

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL PCH
- Primary CCPCH info	
- Cell parameters ID	<u>4</u>
	• ==

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.4.20.5 Test requirement

After step 1 the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.4.21 Transport Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.4.21.1 Definition

8.2.4.21.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to URA_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.4.21.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.4.21.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL	
		RECONFIGURATION	
2	\rightarrow	TRANSPORT CHANNEL	The UE sends this message
		RECONFIGURATION COMPLETE	before start state transition.
3			Reconfiguration of
			Transport channel after state
			transition.
4	←	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	\rightarrow	Cell UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA PCH
 Primary CCPCH info 	
- Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.4.21.5 Test requirement

After step 1 the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

8.2.5 Transport format combination control

8.2.5.1 Transport format combination control in CELL_DCH: restriction

8.2.5.1.1 Definition

8.2.5.1.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when the UE receives TRANSPORT FORMAT COMBINATION CONTROL message.

Reference

3GPP TS 25.331 clause 8.2.5.

8.2.5.1.3 Test purpose

To confirm that the UE do not transmit data on the DTCH in the uplink direction, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message sent from the SS, which is set to the value in IE "Allowed Transport format combination index".

8.2.5.1.4 Method of test

Initial Condition

System Simulator: 1cell UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which indicates that only TFC_0 is allowed on the uplink for DCH transport channel. The UE shall reconfigure the TFCS, stop any transmission on DTCH logical channel and then continues the communication on DCCH only.

Expected sequence

Step	Direction		ep Direction Message	Message	Comment	
	UE	SS				
1				UE s in CELL_DCH state with a DTCH logical channel allocated for communication between UE and SS		
2	÷		TRANSPORT FORMAT COMBINATION CONTROL	The UE shall use the TFC Subset as defined in value IE " Allowed Transport format combination index".		
3				The UE shall not transmit any data on the DTCH.		

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
TrCH information elements	
 Allowed Transport format combination list 	
- Allowed transport format combination	0 and 3(If initial state is "state 6-9")
- Allowed transport format combination	0 and 5(If initial state is "state 6-10")

8.2.5.1.5 Test requirement

After step 2 the UE shall stop transmitting data on the DTCH in the uplink.

8.2.5.2 Transport format combination control in CELL_DCH: release a restriction

8.2.5.2.1 Definition

8.2.5.2.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when it receives TRANSPORT FORMAT COMBINATION CONTROL message, specifying that an existing restriction for the usage of TFCS be removed.

Reference

3GPP TS 25.331 clause 8.2.5.

8.2.5.2.3 Test purpose

To confirm that the UE resume transmission of data on the DTCH on the uplink, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message which include IE "Minimum allowed transport format combination set".

8.2.5.2.4 Method of test

Initial Condition

System Simulator: 1cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state with DTCH allocated but fully restricted. The UE cannot transmit the data on the DTCH, as a result of the restriction on the transport format combination. Next, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which include "Minimum allowed transport format combination set".

Expected sequence

Step	Direction		Direction Message	Comment	
-	UE	SS			
1				No data transmission on the DTCH with a restriction in the uplink direction, following the execution of test 8. 2.5.1.	
2	•	_	TRANSPORT FORMAT COMBINATION CONTROL	Use the TFCS according to IE "Minimum allowed Transport format combination index".	
3				The UE begins to transmit the data on the DTCH.	

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
TrCH information elements	
-Minimum allowed transport format combination set	5(If initial state is "state 6-9")
-Minimum allowed transport format combination set	6(If initial state is "state 6-10")

8.2.5.2.5 Test requirement

After step 2 the UE shall begin to transmit the data on the DTCH in the uplink.

8.2.5.3 Transport format combination control in CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.5.3.1 Definition

8.2.5.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT FORMAT COMBINATION CONTROL message before the UE reconfigures the transport channel completely according to a similar message received earlier. The UE shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.5.

8.2.5.3.3 Test purpose

To confirm that after the UE receives TRANSPORT FORMAT COMBINATION CONTROL message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message is received.

8.2.5.3.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE establishes a radio access bearer on the DCH for to be used for user-data exchange. SS sends a TRANSPORT CHANNEL RECONFIGURATION message on the downlink DCCH, to request that the channel coding scheme for a DCH be changed. After this message has been acknowledged by the UE RLC-AM entity, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which includes a full restriction of the TFCS used in the uplink. The UE shall detect a failure to reconfigure the TFCS, then it transmits TRANSPORT FORMAT COMBINATION CONTROL message on the uplink DCCH. After the activation time specified in the TRANSPORT CHANNEL RECONFIGURATION message has elapsed, the UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS verifies that reconfiguration is completed by checking that the user-data exchange is resumed on DTCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is in CELL_DCH connected state, with a DTCH logical channel for user-data communication
2	•	÷	TRANSPORT CHANNEL RECONFIGURATION	Requesting for a change in semi-static transport format for DCH carrying the DTCH. The dynamic part remains unchanged.
3	•	÷	TRANSPORT FORMAT COMBINATION CONTROL	Requesting for a full restriction on TFCS for the DCH carrying DTCH.
4	-	>	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall keep the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message was received
5				The UE does not change the configuration of TFC and the UE continues reconfigure the affected transport channel.
6			TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE shall resume exchange of data over the DTCH logical channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
 Uplink transport channels 	
 Added or reconfigured TrCH information list 	
- Transport channel identity	2
 Semi-Static Transport Format Information 	
- Type of channel coding	Select a different coding scheme from default message
	content

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in Uplink	Restricted TrCH information
- Subset Representation - Allowed TFIs	Not Present (All TFCs are restricted)

TRANSPORT FORMAT COMBINATION CONTROL FAILURE

Information Element	Value/remark
Message Type	"TRNSPORT FORMAT COMBINATION CNTROL
	FAILURE"
RRC transaction identifier	0
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.5.3.5 Test requirement

After step 3 the UE continue the transport channel reconfiguration as if no TRANSPORT FORMAT COMBINATION CONTROL message was received. Then it shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, stating the reason "Incompatible simultaneous reconfiguration" in IE "Failure cause".

After step 6 the UE shall resume communication with SS on DTCH using the requested channel coding scheme on the transport blocks.

8.2.5.4 Transport format combination control in CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.5.4.1 Definition

8.2.5.4.2 Conformance requirement

The UE shall keep old configuration when it receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message. It shall then transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message, indicating "protocol error" in IE "failure cause" and "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a TRANSPORT FORMAT COMBINATION CONTROL message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.5.

8.2.5.4.3 Test purpose

To confirm after the UE receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keep the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL message has been received. To confirm that the UE transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the

DCCH using AM RLC if it receives a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to invalid value.

8.2.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits an invalid TRANSPORT FORMAT COMBINATION CONTROL message. The UE shall then transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and continues the communication using the radio access bearer. The UE keeps initial configuration and SS transmits TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to invalid value. The UE transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on the DTCH for a communication
2	•	÷	TRANSPORT FORMAT COMBINATION CONTROL	See message content.
3	-	→	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change the configuration
4	•	÷	TRANSPORT FORMAT COMBINATION CONTROL	This message includes IE set to invalid value
5				The UE does not change the configuration
6	-	→	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Information Element	Value/remark
DPCH TFCS in uplink	Set to the value "MaxTFCValue"
- Minimum allowed Transport format combination index	

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 3)

Information Element	Value/remark
Message Type	"TRNSPORT FORMAT COMBINATION CNTROL
	FAILURE"
Failure cause	"protocol error"
Protocol error information	
-Protocol error case	Information element value not comprehended
Other information element	Not checked

TRANSPORT FORMAT COMBINATION CONTROL(Step 4)

Information Element	Value/remark
TrCH information elements - Allowed Transport format combination list	
 Allowed transport format combination 	10

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 6)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.5.4.5 Test requirement

After step 3 the UE shall keep its configuration before the TRANSPORT FORMAT COMBINATION CONTROL message was received and transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC. The UE shall set the value "protocol error" in IE "Failure cause" and the value "information element not comprehended" in IE "protocol error information". The UE shall continue communicate with SS using the radio access bearer.

After step 4 the UE shall keep its old configuration.

After step 5 the UE shall transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

8.2.6 Physical channel reconfiguration

- 8.2.6.1 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Success
- 8.2.6.1.1 Definition

8.2.6.1.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received, which is used for hard handover purposes. It shall be able to communicate with the UTRAN on the new frequency subsequently.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.1.3 Test purpose

To confirm that the UE reconfigures the physical channel parameters according to a PHYSICAL CHANNEL RECONFIGURATION message received from the SS. After the reconfiguration, the UE shall resume normal transmission and reception operations.

8.2.6.1.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive. UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

Test Procedure

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.6.1

Table 8.2.6.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.1 and broadcast BCCH on the primary CCPCH in cell 6. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes a new physical channel parameter specified in the "Frequency Info" IE. The UE shall reconfigure itself and tune to the new physical channel and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6 using AM RLC.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.1.
2		÷	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	•	÷	PHYSICAL CHANNEL RECONFIGURATION	Including new frequency information.
4				UE shall stop uplink activities to cell 1 and begin to reconfigure the physical channel parameters.
5	-	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary CPICH info	
 Primary Scrambling Code 	350
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Initialise

PHYSICAL CHANNEL RECONFIGURATION (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	<u>Maintain</u>

8.2.6.1.5 Test requirement

After step 4 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC in cell 6.

After step 5 the UE communicate with SS, using DTCH and DCCH on the new dedicated physical channel in cell 6.

8.2.6.2 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Unsupported configuration)

8.2.6.2.1 Definition

8.2.6.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes an unsupported configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.2.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters for the UE.

8.2.6.2.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes unsupported configuration parameters as the frequency cannot be supported by the UE. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	<u>.</u>	PHYSICAL CHANNEL RECONFIGURATION	Includes an unsupported configuration as the frequency cannot be supported by the UE
2	-	>	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel and continue to communicate using the old configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984
- UARFCN downlink(Nd)	Not Present

PHYSICAL CHANNEL RECONFIGURATION (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.6.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Physical channel failure and reversion to old channel)

8.2.6.3.1 Definition

8.2.6.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by the expiry of timer T312, and then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to the received PHYSICAL CHANNEL RECONFIGURATION message by timer T312 expiry.

8.2.6.3.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes new frequency parameters. However, the SS does not reconfigure the new physical channel. The UE is expected to encounter a failure to reconfigure the new physical channel and after T312 timer expiry the UE shall revert to the old configuration. Finally, the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC specifies "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		PHYSICAL CHANNEL RECONFIGURATION	Including a new <u>UL scrambling</u> code for FDD and First timeslot code list for TDD frequency information
2				The SS does not reconfigure the physical channel so that the UE fails to reconfigure to the new physical channel.
3	<i>→</i>		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry, the UE shall revert to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

PHYSICAL CHANNEL RECONFIGURATION (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	<u>Maintain</u>

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE "failure cause".

- 8.2.6.4 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Physical channel failure and reversion failure)
- 8.2.6.4.1 Definition

8.2.6.4.2 Conformance requirement

The UE shall perform a cell update procedure when the UE fails to revert to the old configuration, after the detection of physical channel failure during the course of executing a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.4.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure when the UE cannot reconfigure the new physical channel for the failure of L1 configuration and for the failure of the reversion to the old configuration.

8.2.6.4.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 6 is inactive UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Parameter	Unit	Ce	1	Ce	ll 6
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.6.4

Table 8.2.6.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.4 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new uplink and downlink frequency parameters of cell 6, but the SS does not configure any dedicated physical channel in cell 6. The UE is expected to fail to reconfigure the new dedicated physical channel and tries to revert to the old configuration. But the SS already deleted the old physical channel configuration and the UE cannot revert old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.4.
2	÷	BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
3	÷	PHYSICAL CHANNEL RECONFIGURATION	The message includes new <u>UL</u> scrambling code for FDD and First timeslot code list for TDD frequency information
4			SS does not configure any dedicated physical channel in cell 6, at the same time, it deletes the old configuration so the UE cannot reconfigure the new physical channel and cannot revert to the old configuration.
5	<i>→</i>	CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
6	÷	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
7			The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
8	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
9	\rightarrow	PHYSICAL CHANNELRECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Maintain

CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> for FDD and <u>Annex</u> <u>A for TDD</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

CELL UPDATE CONFIRM (Step 6) (FDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
RRC State indicator	CELL_DCH
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	100
 PDSCH with SHO DCH info 	Not Present
 PDSCH code mapping 	Not Present
 Downlink DPCH info for each RL 	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- DPCH frame offset	0 chips
 Secondary CPICH info 	Not Present
 DL channelisation code 	
 Secondary scrambling code 	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
 Scrambling code change 	No change
- TPC combination index	0
- SSDT Cell Identity	-a
 Closed loop timing adjustment mode 	Not Present
- SCCPCH information	Not Present

CELL UPDATE CONFIRM (Step 6) (TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex Awith the following exceptions:

Information Element	Value/remark
<u>U-RNTI</u>	Same as CELL UPDATE message in step 4
RRC State Indicator	CELL_DCH
Uplink DPCH timeslots and codes	Same as RADIO BEARER SETUP message used to
	move to initial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to initial condition

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 9)

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.6.4.5 Test requirement

After step 2 the UE shall transmits CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "radio link failure" in cell 1.

After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

- 8.2.6.5 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Incompatible simultaneous reconfiguration)
- 8.2.6.5.1 Definition

8.2.6.5.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION SETUP, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.5.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.6.5.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER RECONFIGURATION	
2	÷	PHYSICAL CHANNEL RECONFIGURATION	Sent before the "Activation Time Info" specified in the message in step 1 has elapsed.
3	<i>→</i>	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of PHYSICAL CHANNEL RECONFIGURATION FAILURE message.
4	\rightarrow	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A-

RADIO BEARER RECONFIGURATION (Step 1) (TDD)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned by SS
Downlink information common for all radio links	
 Downlink DPCH info common for all RL 	
- Timing Indicator	Maintain

PHYSICAL CHANNEL RECONFIGURATION (Step 2) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A-with the following exceptions:

	The found in Finnex II with the following exceptions.
Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION (Step 2) (TDD)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
- Uplink DPCH timeslots and codes	
 First timeslot code list 	Different as assigned in Step 1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

PHYSICAL CHANNEL RECONFIGURATION FAILURE (step 3)

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.5.5 Test requirement

After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration". After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.6.6 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Invalid message reception and Invalid configuration)

8.2.6.6.1 Definition

8.2.6.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message, which includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". It shall then transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message which contains the value "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.6.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives an invalid PHYSICAL CHANNEL RECONFIGURATION message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.6.6.4 Method of test

Initial Condition

System Simulator: 1 cell. UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE, with a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with a value "protocol error" in IE "failure cause" and also a value "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL RECONFIGURATION	See message content.
2	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
3	÷	PHYSICAL CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4			The UE does not change the configuration
5	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	100
- PDSCH with SHO DCH info	Not Present
 PDSCH code mapping 	Not Present
 Downlink DPCH info for each RL 	
 Primary CPICH usage for channel estimation 	Primary CPICH may be used
- DPCH frame offset	0 chips
 Secondary CPICH info 	Not Present
 DL channelisation code 	
 Secondary scrambling code 	1
 Spreading factor 	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
 Scrambling code change 	No change
- TPC combination index	0
- SSDT Cell Identity	-a
 Closed loop timing adjustment mode 	Not Present
- SCCPCH information	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL FACH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
-PRACH TFCS	Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 5)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.6.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "protocol error" in IE "failure cause" and also setting value "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".
8.2.6.7 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success

8.2.6.7.1 Definition

8.2.6.7.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message when asked to perform a transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.7.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.7.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message and the system information messages. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	<u>.</u>	PHYSICAL CHANNEL	
2				Reconfiguration of physical
2				channel
3	-	>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

8.2.6.7.5 Test requirement

After step 3 the UE shall transit from CELL_DCH to CELL_FACH and continue to communicate with SS on the common physical channel.

8.2.6.8 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.6.8.1 Definition

8.2.6.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.8.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after the UE completes a cell reselection and cell update procedure.

8.2.6.8.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.8

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP	dBm	-73	-79	switch ed off	-73

Table 8.2.6.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.8 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The UE transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	\		BCCH	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8. The SS starts to broadcast BCCH on the primary CCPCH in cell 2.
2	÷		PHYSICAL CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info" <u>for FDD</u> and Primary CCPCH info for <u>TDD</u> .
3				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8.
4	-	>	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	•	<u> </u>	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
6	-	→	UTRAN MOBILITY INFORMATION CONFIRM	
7	\rightarrow		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	4

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A for FDD and Annex A for TDD</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

8.2.6.8.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit PHYSICAL CHANNEL COMPLETE message on the DCCH using AMRLC. After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.6.9 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success

8.2.6.9.1 Definition

8.2.6.9.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, which triggers a transition from CELL_FACH to CELL_DCH.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.9.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message received from the UTRAN, in the case of an assignment of dedicated physical resource from the common physical channels used previously by the UE.

8.2.6.9.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to start a transition from CELL_FACH to CELL_DCH. The UE shall reconfigure the new physical channel

correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment	
	UE	SS			
1	•	÷	PHYSICAL CHANNEL RECONFIGURATION		
2				The UE shall reconfigure the physical channel in order to start using the dedicated channels allocated.	
3	-)	PHYSICAL CHANNEL RECONFIGURATION COMPLETE		

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A for FDD and Annex A for TDD.

8.2.6.9.5 Test requirement

After step 3 the UE shall transit from CELL_FACH to CELL_DCH and continue to communicate with SS on the dedicated physical channel.

8.2.6.10 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.6.10.1 Definition

8.2.6.10.2 Conformance requirement

The UE shall keep its old configuration when the it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies unsupported configuration parameters for the UE. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the cause "configuration unsupported" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.10.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported frequencies for the UE. The PHYSICAL CHANNEL RECONFIGURATION is structured in such a manner as to trigger a transition from CELL_FACH to CELL_DCH in the UE. The UE shall responds with a PHYSICAL CHANNEL RECONFIGURATION FAILURE message sent on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		PHYSICAL CHANNEL	Includes unsupported
			RECONFIGURATION	frequencies for the UE
2	\rightarrow		PHYISICAL CHANNEL	The UE shall not change the
			RECONFIGURATION FAILURE	physical channel configuration,
				this message shall be sent using
				the original allocated physical
				resource.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63984
- UARFCN downlink(Nd)	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN (Nt)	<u>0</u>

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

8.2.6.10.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, the IE "failure cause" shall be set to "configuration unsupported".

8.2.6.11 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.6.11.1 Definition

8.2.6.11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by timer T312 expiry. It shall report the failure by transmitting a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message by the T312 expiry.

8.2.6.11.4 Method of test

Initial Condition

System Simulator: 1 cell UE: DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, requesting it to transit from CELL_FACH to CELL_DCH due to a switch in physical resource reallocation. However, it does not reconfigure the new physical channel accordingly but continue to use the old configuration. Consequently, the UE shall fail to reconfigure the new physical channel, and after T312 expiry the UE attempt to revert to the old configuration. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which reports "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL RECONFIGURATION	
2			The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
3	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE reverts to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A for FDD and Annex A for TDD.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.11.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "physical channel failure" in IE "failure cause".

8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.12.1 Definition

8.2.6.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.12.3 Test purpose

To confirm that the UE initiates a cell update procedure after it fails to reconfigure the new physical channel and selects another cell.

To confirm that UE transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes cell update procedure.

8.2.6.12.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Parameter	Unit	Ce	ll 1	Ce	ll 2
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <u>Ec</u> RSCP(FDD)	dBm	- 73<u>60</u>	- 79<u>75</u>	- <u>75</u> swit ched off	-73 <u>60</u>
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.6.12

Table 8.2.6.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but the SS does not reconfigure L1 accordingly. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.12. As a result, the UE fail to reconfigure new physical channel and reselect to cell 2 and then the UE sends a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1		PHYSICAL CHANNEL RECONFIGURATION	
2			The SS does not configure the new dedicated physical channel in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.12.
3	÷	ВССН	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4	\rightarrow	CELL UPDATE	This message includes the value "cell reselection " set in IE "Cell update cause".
5		CELL UPDATE CONFIRM	This message includes IE "new U-RNTI" and IE "new C-RNTI"".
6	\rightarrow	UTRAN MOBILITY INFORMATION CONFIRM	UE shall send this message in the cell 2.
7	\rightarrow	PHYSICAL CHANNEL RECONGURATION FAILURE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A for FDD and Annex A for TDD.

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A for FDD and Annex A for TDD</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 7)

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

8.2.6.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "cell reselection".

After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

8.2.6.13 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.13.1 Definition

8.2.6.13.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.13.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration according to the previously received message.

8.2.6.13.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

Expected sequence

Step	Direc	tion	Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2	÷		PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the frame number specified in IE "Activation time info" of the message dispatched in step 1.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of PHYSICAL CHANNEL RECONFIGURATION message.
4	\rightarrow		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 44) (FDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A-

RADIO BEARER RECONFIGURATION (Step 4) (TDD)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL DCH from CELL FACH in PS" as found in Annex A with the following exceptions

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
 Uplink DPCH timeslots and codes 	
- First timeslot code list	Assigned by SS

PHYSICAL CHANNEL RECONFIGURATION (Step <u>52) (FDD)</u>

For PHYSICAL CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A-with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION (Step 5) (TDD)

For PHYSICAL CHANNEL RECONFIGURATION in step 5, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	Different as assigned previously

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step <u>6</u>3)

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.13.5 Test requirement

After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration". After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

8.2.6.14 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.6.14.1 Definition

8.2.6.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, set

"protocol error" in IE "failure cause" and also set "Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before reception of a TRANSPORT CHANNEL RECONFIGURATION message when the TRANSPORT CHANNEL RECONFIGURATION message include some IEs set to invalid value, and then the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration"

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.14.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received message uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value.

8.2.6.14.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE which comprises a defined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also setting "Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to invalid value. The UE transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL RECONFIGURATION	See message content.
2	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
3	÷	PHYSICAL CHANNEL RECONFIGURATION	This message includes IE set to invalid value
4			The UE does not change the configuration
5	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficient	Out of range value.

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
 Protocol error information 	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 36) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Uplink DPCH info	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 6) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark	
-PRACH TFCS	Present	

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 57)

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

8.2.6.14.5 Test requirement

After step 1 the UE shall keep its old configuration, transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

8.2.6.15 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH (Hard handover to another frequency): Success

8.2.6.15.1 Definition

8.2.6.15.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message when asked to perform a transition from CELL_FACH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.15.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.15.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

Parameter	<u>Unit</u>	<u>Cell 1</u>		<u>Cell 2</u>	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF		<u>Ch. 1</u>		<u>Ch. 1</u>	
Number					
CPICH Ec	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.6.15

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message and the system information messages. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction	Message	Comment	
	UE SS			
1	←	PHYSICAL CHANNEL		
		RECONFIGURATION		
2			Reconfiguration of physical	
			channel	
3	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE		

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (TDD)

Use the message sub-type titled "Packet to CELL FACH from CELL FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	<u>4</u>

8.2.6.15.5 Test requirement

After step 3 the UE shall be in CELL_FACH state and continue to communicate with SS on the common physical channel.

8.2.6.16 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: (Cell re-selection)

8.2.6.16.1 Definition

8.2.6.16.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel..

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.16.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after the UE completes a cell reselection and cell update procedure.

8.2.6.16.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

Table 8.2.6.16

Devenueter	1.1	0.		0.0	
Parameter	Unit	Ce	11 1	Ce	II Z
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <u>Ec</u> RSCP(FDD)	dBm	- <u>60</u> 73	- <u>75</u> 79	- <u>75</u> swit ched off	- <u>60</u> 73
P-CCPCH RSCP (TDD)	<u>dBm</u>	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.6.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting a PHYSICAL CHANNEL RECONFIGURATION message, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.1.9 and broadcast BCCH on the primary CCPCH in cell 2. The UE shall initiate the cell update procedure and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE SS			
1	←	-	PHYSICAL CHANNEL	This message include IE
			RECONFIGURATION	"Primary CPICH info" (FDD).
2				The UE shall detect a failure to
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.6.16.
3	←		BCCH	The SS starts to broadcast
				BCCH on the primary CCPCH in
				cell2.
4	\rightarrow		CELL UPDATE	The value "cell reselection" shall
				be set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI".
6	\rightarrow		UTRAN MOBILITY INFORMATION	
			CONFIRM	
7	\rightarrow		PHYSICAL	
			CHANNELRECONFIGURATION	
			COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
 Primary scrambling code 	150

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the message sub-type titled "Packet to CELL FACH from CELL FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CCPCH info	
- Cell parameters ID	Not Present

CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A for FDD and Annex</u> <u>A for TDD</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A for FDD and Annex A for TDD</u> with the following exceptions:

Value/remark
Same as CELL UPDATE message in step 7
'0000 0000 0000 0001'
Different from previous S-RNTI
Different from previous C-RNTI

8.2.6.16.5 Test requirement

After step 3 the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit PHYSICAL CHANNEL COMPLETE message on the DCCH using AM RLC. After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

8.2.6.17 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Success (Subsequently received)

8.2.6.17.1 Definition

8.2.6.17.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.17.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.17.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL RECONFIGURATION	For FDD mode the "Secondary scrambling code is set to "1". For TDD mode a code combination is assigned by SS.
1a			The SS set its Downlink DPCH scrambling code to "1".
2	÷	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1. For FDD, tThe IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different to that assigned in stage 1.
3	<i>→</i>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step1) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- First timeslot code list	Assigned in step 1

PHYSICAL CHANNEL RECONFIGURATION (Step2) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
- Secondary scrambling code	2

PHYSICAL CHANNEL RECONFIGURATION (Step2) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

8.2.6.17.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

8.2.6.18 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.6.18.1 Definition

8.2.6.18.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.18.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.18.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	£	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified
2			UE shall perform the reconfiguration
<u>3</u>	<u>→</u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
4 <u>4</u>	÷	PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1" for FDD mode and A code combination is assigned by SS for TDD
1a			The SS set its Downlink DPCH scrambling code to "1".
2	÷	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step <u>44</u> . For FDD <u>t</u> The IE "Secondary scrambling code" is set to "2". For TDD, the <u>code combination assigned is</u> <u>different from that assigned in</u> <u>stage 4</u>
3	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 52 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 44.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 44) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

PHYSICAL CHANNEL RECONFIGURATION (Step 4) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL DCH from CELL FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
 Uplink DPCH timeslots and codes 	
 First timeslot code list 	Assigned in step 1

PHYSICAL CHANNEL RECONFIGURATION (Step 52) (FDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

	6 1
Information Element	Value/remark
Activation Time	Not Present
- DL channelisation code	
 Secondary scrambling code 	

PHYSICAL CHANNEL RECONFIGURATION (Step 5) (TDD)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
 Uplink DPCH timeslots and codes 	
- First timeslot code list	A different code combination to that used in step 1.

8.2.6.18.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

8.2.6.19 Physical Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.6.19.1 Definition

8.2.6.19.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to CELL_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And

then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.19.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state in the same cell.

8.2.6.19.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL	
		RECONFIGURATION	
2	\rightarrow	PHYSICAL CHANNEL	The UE sends this message
		RECONFIGURATION COMPLETE	before start state transition.
3			Reconfiguration of Physical
			Channel after state transition.
4	←	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

Use the same message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	4

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A for FDD and Annex A for TDD with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.19.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.6.20 Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.6.20.1 Definition

8.2.6.20.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to URA_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.20.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state.

8.2.6.20.4 Method of test

Initial Condition

System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PHYSICAL CHANNEL RECONFIGURATION	
2	\rightarrow	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3			Reconfiguration of Physical Channel after state transition.
4	÷	PAGING TYPE 1	The SS transmits this message included a matched identity.
5	\rightarrow	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A-with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (TDD)

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio links	
- Primary CCPCH info	
-Cell parameters ID	<u>4</u>

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A for FDD and Annex A for TDD with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
 CHOICE Used paging identity 	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.20.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

8.2.6.21 Void

8.2.6.22 Void

8.2.7 Physical Shared Channel Allocation [TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

8.2.8 PUSCH capacity request [TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

8.2.9 Void

T1-020063

CHANGE REQUEST			
^ж 34	.123-1 CR 156 # rev - ^{# Current version:} 4.1.0 [#]		
For <u>HELP</u> on usi	ng this form, see bottom of this page or look at the pop-up text over the $#$ symbols.		
Proposed change af	ects: # (U)SIM ME/UE X Radio Access Network Core Network		
Title: ೫	Modifications of MM test cases		
Source: ೫	FUJITSU LIMITED		
Work item code: ೫	TEI Date: ೫ 21 February 2002		
Category: %	Release: % REL-4 se one of the following categories: Use one of the following releases: F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) etailed explanations of the above categories can REL-4 (Release 4) e found in 3GPP TR 21.900. REL-5 (Release 5) % It is necessary to clarify the radio conditions of multi-cell environment. Modification of incorrect test case 9.4.5.4 as it is based on an R97 function that has been modified in Rel99. The new test covers both the basic functionality (modified in March 01) and the interaction with ePLMN.		
Summary of change	 Some editorial errors are remained. Clarify the radio conditions of multi-cell environment with describing the cell type in the expected sequence. The definitions of the cell type are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only". Modify the test cases 9.4.5.4.1, 9.4.5.4.2 and 9.4.5.4.43 to cover the basic functionality and the interaction with ePLMN. Modify some editorial errors. 		
Consequences if not approved:	# Inconsistencies with the core specification, unclear radio conditions in multi-cell environment and editorial mistakes are left.		
Clauses affected:	 9.1.4, 9.2.2.4, 9.4.1.4, 9.4.2.1.4, 9.4.2.2.4.1, 9.4.2.2.4.2, 9.4.2.2.5, 9.4.2.3.4, 9.4.2.4.2, 9.4.2.4.4, 9.4.2.5.4, 9.4.3.2.4, 9.4.3.3.4, 9.4.4.4, 9.4.5.3.4, 9.4.5.4.1.2, 9.4.5.4.1.3, 9.4.5.4.1.4, 9.4.5.4.1.5, 9.4.5.4.2.2, 9.4.5.4.2.3, 9.4.5.4.2.4, 9.4.5.4.3.2, 9.4.5.4.3.3, 9.4.5.4.3.4, 9.4.6.4, 9.5.7.1.4 		
Other specs affected:	% Other core specifications % Test specifications O&M Specifications		
Other comments:	# Affects R99 and REL-4.		

How to create CRs using this form: Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9 Elementary procedures of mobility management

The tests are based on TS 24.008.

In this clause, when the expected sequence require that "a mobile originated CM connection is attempted", it shall be for a service other than emergency call.

In this clause, a initial CM message is either a SETUP message, a REGISTER message or a CP-DATA message (in that case the acknowledged mode of operation on SAPI 3 will have be established and this message will be sent on SAPI 3).

9.1 TMSI reallocation

The intention of the TMSI Reallocation procedure is to assign a new temporary identity for the UE. If the message is not understood by the UE, the network could not establish a link to the UE. As this is a common MM procedure, it can be initiated at any time.

9.1.1 Definition

9.1.2 Conformance requirement

- 1) A UE shall acknowledge a new TMSI when explicitly allocated during a location updating procedure or an incoming call.
- 2) The TMSI shall be updated on the USIM when the UE is correctly deactivated in accordance with the manufacturer's instructions.
- 3) A UE shall answer paging with this TMSI and includes it in the PAGING RESPONSE message.

Reference(s)

TS 24.008 clause 4.3.1.

9.1.3 Test purpose

To verify that the UE is able to receive and acknowledge a new TMSI by means of an explicit TMSI reallocation procedure.

To verify that the UE has stored the TMSI in a non-volatile memory.

The implicit reallocation procedure is tested in clause 9.4.1.

9.1.4 Method of test

Initial conditions

- System Simulator:
 - two cells A and B, belonging to different location areas a and b, default parameters.
- User Equipment:
 - the UE has valid TMSI (= TMSI1), CKSN, CK, IK. It is "idle updated" on cell B.

Related ICS/IXIT statement(s)

Switch off button Yes/No.

Way to bring the UE into service.

Test Procedure

The UE is paged in cell B and the security mode is established. An explicit TMSI reallocation procedure is performed. The RRC CONNECTION is released. The UE is switched off and then its power supply is interrupted for 10 s. The power supply is resumed and then the UE is switched on and allowed sufficient time to guarantee that the UE is in service (listening to its paging subchannel). The system simulator then checks, by paging, whether the UE has stored the received TMSI.

The UE is made to select cell A. A normal location updating procedure is performed in cell A. An explicit TMSI reallocation procedure is performed and then the location updating procedure is accepted by the SS. The system simulator checks, by paging, whether the UE has stored the allocated TMSI.

Expected sequence

Step	Direction	Message	Comments
T I (II	UE 55		
The folic	wing messag	ges are sent and shall be received or	
1	~	Mobile terminated establishment	See 15 34.108 clause 7.1.2
		of Radio Resource Connection	"Initial UE Identity" = TMSI1.
<u> </u>			Establishment Cause: Terminating Conversation Call.
2	7		Mobile Identity = I MSI I
2a	$\overline{\mathbf{x}}$		
20	7		
3	<pre> </pre>		
4			"Mobile identity"
5	· ·		$\frac{1}{1}$
~			1.
0	7		
7	4		After the conding of this message, the SS waits for the
1		KKC CONNECTION RELEASE	disconnection of the main signalling link
o	<u>د</u>		disconnection of the main signaling link.
0	~		
0		COMPLETE	If passible (and ICS), the LIE is switched off
9			The newer supply is interrupted for 10 s
9a 10			The LIE is switched on
11	0L 88		The SS waits an amount of time which is enough to
11			quarantee that the LIE is in service (listening to its paging
			guarance that the OE is in service (listening to its paging
12	4	Mobile terminated establishment	Subcitatificity. See TS 34 108 clause 7.1.2
12	,	of Radio Resource Connection	"Initial LIE identity" – TMSI2
			Establishment Cause: Terminating Conversation Call
13	\rightarrow	PAGING RESPONSE	"Mohile identity" –TMSI2
14	-	BRC CONNECTION RELEASE	After the sending of this message the SS waits for the
17	,		disconnection of the main signalling link. The following
			messages are sent and shall be received on cell A
15	\rightarrow	RRC CONNECTION RELEASE	
10	,	COMPLETE	
16	SS		The RF level of cell B is lowered until the UF selects cell
			A. The RF level of cell B is set sufficiently low to ensure
			that cell B is not suitable. Set the cell type of cell A to the
			"Serving cell".
			Set the cell type of cell B to the "non-suitable cell"
			(NOTE)
17	\rightarrow	RRC CONNECTION REQUEST	Establishment cause: Registration.
18	←	RRC CONNECTION SETUP	
19	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
20	\rightarrow	LOCATION UPDATING	location updating type = normal, "ciphering key sequence
		REQUEST	number" = CKSN, LAI = b, "mobile identity" = TMSI2.
20a	÷	AUTHENTICATION REQUEST	
20b	\rightarrow	AUTHENTICATION RESPONSE	
20c	←	SECURITY MODE COMMAND	
20d	\rightarrow	SECURITY MODE COMPLETE	
21	←	TMSI REALLOCATION	TMSI = TMSI1.
		COMMAND	
22	\rightarrow	TMSI REALLOCATION	
		COMPLETE	
23	←	LOCATION UPDATING ACCEPT	This message does not contain the optional Mobile
<u> </u>			Identity field.
24	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link. The SS waits an
			amount of time which is enough to guarantee that the UE
<u> </u>			is "idle updated" on cell A.
25	→		
00			Con TO 04 400 aloung 7.4.0
26	→	viobile terminated establishment	See 15 34.108 clause 7.1.2
			Initial OE Identity IE contains the new IMSI (= IMSI1).
07			Establishment cause: Terminating Conversational Call.
21	7	PAGING RESPONSE	Nobile identity $T = contains the new TMST (= TMST1).$

Step	Direction	Message	Comments
28	UE SS ←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
29	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
NOTE:	E: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference		
	Radio Conditions for signalling test cases only".		

Specific message contents

None.

9.1.5 Test requirement

At step 5 the UE shall receive and acknowledge a new TMSI (TMSI2) and has stored that in the USIM, and the UE is switched off and on after step 9 and 10.

At step 13 the UE shall transmit a new TMSI2 and includes it in the PAGING RESPONSE message.

At step 27 the UE shall answer paging with this TMSI1 and includes it in the PAGING RESPONSE message.

9.2 Authentication

The purpose of this procedure is to verify the user identity. A correct response is essential to guarantee the establishment of the connection. If not, the connection will drop.

The SS shall be able to handle vectors of AUTN, RAND, CK, IK, AUTS and XRES in a similar way as the MSC/BSS entities. The SS and test USIM shall incorporate a test algorithm for generating RES and CK, IK from RAND, AUTN and IK which operates as described in TS 34.108 clause 8.1.2.

9.2.1 Authentication accepted

9.2.1.1 Definition

9.2.1.2 Conformance requirement

- 1) A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the one produced by the authentication algorithm in the network.
- 2) A UE shall indicate in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

Reference(s)

TS 24.008 clauses 4.3.2.2 and 4.3.2.4.

9.2.1.3 Test purpose

- 1) To check that a UE correctly responds to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the one produced by the authentication algorithm in the network.
- 2) To check that a UE indicates in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

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9.2.1.4 Method of test

Initial conditions

- System Simulator:
 - 1 cell, default parameters.
- User Equipment:
 - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

Test Procedure

The UE is paged. After the UE has sent a PAGING RESPONSE message to the SS, the SS initiates an authentication procedure and checks the value RES sent by the UE in the AUTHENTICATION RESPONSE message. The RRC CONNECTION is released. The UE is paged and the SS checks the value of the ciphering key sequence number sent by the UE in the PAGING RESPONSE message.

Expected sequence

Step	Direction	Message	Comments
	UE SS		
1		Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	Establishment Cause: Terminating Conversational Call.
2	\rightarrow	PAGING RESPONSE	CKSN = CKSN1
3		AUTHENTICATION REQUEST	The SS initiates authentication with CKSN2 different from CKSN1
4	\rightarrow	AUTHENTICATION RESPONSE	"Auth. parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.
5	~	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
6	\rightarrow	RRC CONNECTION RELEASE	
7		Mobile terminated establishment	See TS 34.108 clause 7.1.2
8	<i>→</i>	PAGING RESPONSE	"Ciphering key sequence number" shall be the same as the value that was sent in the last AUTHENTICATION REQUEST message (= CKSN2).
9	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	\rightarrow	RRC CONNECTION RELEASE	

Specific message contents

None.

9.2.1.5 Test requirement

- 1) At step 4 the UE shall send an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the XRES calculated by the SS.
- 2) At step 8 the UE shall indicate in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

9.2.2 Authentication rejected by the network

- 9.2.2.1 Definition
- 9.2.2.2 Conformance requirement
 - 1) After reception of an AUTHENTICATION REJECT message the UE shall:
 - 1.1 not perform normal location updating;
 - 1.2 not perform periodic location updating;
 - 1.3 not respond to paging with TMSI;
 - 1.4 reject any request from CM entity for MM connection except for emergency call;
 - 1.5 not perform IMSI detach if deactivated.
 - 2) After reception of an AUTHENTICATION REJECT message the UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call" and include an IMEI as mobile identity in the CM SERVICE REQUEST message.
 - 3) After reception of an AUTHENTICATION REJECT message the UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 clause 4.3.2.5.

9.2.2.3 Test purpose

- 1) To check that ,after reception of an AUTHENTICATION REJECT message, the UE:
 - 1.1 does not perform normal location updating;
 - 1.2 does not perform periodic location updating;
 - 1.3 does not respond to paging with TMSI;
 - 1.4 rejects any request from CM entity for MM connection except for emergency call;
 - 1.5 does not perform IMSI detach if deactivated.
- 2) To check that, after reception of an AUTHENTICATION REJECT message the UE, if it supports speech, accepts a request for an emergency call by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call" and includes an IMEI as mobile identity in the CM SERVICE REQUEST message.
- To check that, after reception of an AUTHENTICATION REJECT message and after having been deactivated and reactivated, the UE performs location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN.

9.2.2.4 Method of test

Initial conditions

- System Simulator:
 - two cells: A and B, belonging to different location areas a and b;
 - IMSI attach/detach is allowed in both cells;
 - the T3212 time-out value is 1/10 hour in both cells.

- User Equipment:
 - the UE has valid TMSI, CKSN (CKSN2), CK and IK. It is "idle updated" on cell B.

Related ICS/IXIT statement(s)

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

Test procedure

The SS rejects an authentication. The RRC CONNECTION is released. The SS checks that the UE has entered the state MM IDLE substate NO IMSI, i.e. does not perform normal location updating, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if USIM detachment is performed, switch off is performed, or the power is removed, depending on the UE (see ICS/IXIT).

Expected sequence

Step	Direction	Message	Comments		
	UE SS				
The follo	wing message	ges are sent and shall be received or	n cell B		
1		Mobile terminated establishment	See TS 34.108 clause 7.1.2		
_		of Radio Resource Connection	Establishment Cause: Terminating Conversational Call.		
2	7	PAGING RESPONSE	"Ciphering key sequence number" shall be the same as		
			REQUEST message (= CKSN2).		
3	÷	AUTHENTICATION REQUEST			
4	\rightarrow	AUTHENTICATION RESPONSE			
5	←	AUTHENTICATION REJECT	After the conding of this massage, the CC waits for the		
Ö		RRC CONNECTION RELEASE	disconnection of the main signalling link		
7	\rightarrow	RRC CONNECTION RELEASE			
		COMPLETE			
8	←	PAGING TYPE 1	The UE is paged in cell B. "UE identity " IE contains		
0			TMSI. Paging Cause: Terminating Conversational Call.		
9	UE		3 s		
10	SS		The SS waits for at least for 15 s.		
11	UE		A MO CM connection is attempted.		
12	UE		The UE shall not initiate an RRC connection		
			establishment on cell A or cell B. This is checked during		
13	UE		3 S. If the LIF supports speech (see ICS) an emergency call		
10	01		is attempted.		
14	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Emergency call.		
15	÷	RRC CONNECTION SETUP			
16	\rightarrow	RRC CONNECTION SETUP			
17	\rightarrow		"CM service type": Emergency call establishment		
17	,		"Mobile identity": type of identity is set to IMEI.		
18	÷	CM SERVICE ACCEPT			
19	\rightarrow	EMERGENCY SETUP			
20	~	RELEASE COMPLETE	"Cause" = unassigned number.		
21	₹	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the		
22	\rightarrow	RRC CONNECTION RELEASE			
		COMPLETE			
The following messages are sent and shall be received on cell A.					
23	SS		The RF levels are changed to make the UE reselect the		
			Cell A. Set the cell type of cell A to the "Serving cell".		
			(NOTE)		
24	UE		The UE performs cell reselection according to procedure		
			as specified in (this however is not checked until step 29).		
			The UE shall not initiate an RRC connection		
25	22		establishment on cell A or on cell B.		
20	00		updating.		
26	UE		The UE shall not initiate an RRC connection		
			establishment on cell A or on cell B.		
27	UE		If possible (see ICS) USIM detachment is performed.		
			Otherwise it possible (see IUS) switch off is performed.		
28	UF		The UE shall not initiate an RRC connection		
			establishment on cell A or on cell B. This is checked		
			during 3 s.		
29	UE		Depending on what has been performed in step 26 the		
20	<u>د</u>		UE is brought back to operation.		
30	→ ←				
32	\rightarrow	RRC CONNECTION SETUP			
		COMPLETE			
Step	Direction	Message	Comments		
-------	---	--	---	--	--
	UE SS				
33	→ →	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "Mobile Identity" = IMSI, "LAI" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).		
34	←	AUTHENTICATION REQUEST	"CKSN" = CKSN1.		
35	\rightarrow	AUTHENTICATION RESPONSE			
36	←	LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.		
37	\rightarrow	TMSI REALLOCATION COMPLETE			
38	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.		
39	\rightarrow	RRC CONNECTION RELEASE	5 5		
		COMPLETE			
NOTE:	The definitio	ns for "Serving cell" and "non-suitabl	e cell" are specified in TS 34.108 clause 6.1 "Reference		
	Radio Conditions for signalling test cases only".				

Specific message contents

None.

9.2.2.5 Test requirement

1)

1.1 At step 24 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.2 At step 25 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.3 At step 9 the UE shall not respond to paging.

1.4 At step 12 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

1.5 At step 28 the UE shall not send any RRC CONNECTION REQUEST on cell A or on cell B.

- 2) At step 14 the UE shall send a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call"; and at step 17 the UE shall send a CM SERVICE REQUEST message with the "CM service type" set to "Emergency call establishment".
- 3) At step 33 the UE shall perform location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN.

9.2.3 Authentication rejected by the UE (MAC code failure)

9.2.3.1 Definition

Following a UMTS authentication challenge, the UE may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the UE considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid, it shall send an AUTHENTICATION FAILURE message to the network, with the reject cause 'MAC failure'.

9.2.3.2 Conformance requirement

- A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'MAC failure'. A UE shall correctly respond to an AUTHENTICATION REQUEST message with correct AUTN parameter by sending AUTHENTICATION RESPONSE message after identification procedure.
- 2) Upon reception of an IDENTITY REQUEST message, the UE shall identify itself by sending an IDENTITY RESPONSE message including the IMSI to the network.

3) Upon receiving the second AUTHENTICATION REQUEST message from the network, the UE shall stop the timer T3214, if running, and then process the challenge information as normal. Upon successfully validating the network (an AUTHENTICATION REQUEST that contains a valid MAC is received), the UE shall send the AUTHENTICATION RESPONSE message to the network and shall start any retransmission timers (e.g. T3210, T3220 or T3230), if they were running and stopped when the UE received the first AUTHENTICATION REQUEST message containing an invalid MAC.

Reference(s)

TS 24.008 clauses 4.3.2.5.1 and 4.3.2.6 (c)

9.2.3.3 Test purpose

- To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'MAC failure'. A UE shall correctly respond to an AUTHENTICATION REQUEST message with correct AUTN parameter by sending AUTHENTICATION RESPONSE message after identification procedure.
- 2) To verify that upon reception of an IDENTITY REQUEST message the UE identifies itself by sending an IDENTITY RESPONSE message including the IMSI to the network.
- 3) To verify that upon receiving the second AUTHENTICATION REQUEST message from the network, the UE shall stop the timer T3214, if running, and then process the challenge information as normal. To verify that upon successfully validating the network (an AUTHENTICATION REQUEST that contains a valid MAC is received), the UE sends the AUTHENTICATION RESPONSE message to the network.

9.2.3.4 Method of test

Initial conditions

- System Simulator:
 - 1 cell, default parameters.
- User Equipment:
 - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

Test procedure

The UE rejects an authentication. The AUTHENTICATION FAILURE is sent by UE. Upon receipt of the AUTHENTICATION FAILURE message. The SS initiates identification procedure. The UE responded to the SS by sending IDENTITY RESPONSE message. The SS sends AUTHENTICATION REQUEST message with correct AUTN parameter.

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Expected sequence

Step	Direction	Message	Comments
	UE SS		
1		Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	Establishment Cause: Terminating Conversational Call.
2	\rightarrow	PAGING RESPONSE	CKSN = CKSN1
3	←	AUTHENTICATION REQUEST	with the AUTN parameter having an invalid MAC code
4	\rightarrow	AUTHENTICATION FAILURE	with reject cause "MAC failure"
5	←	IDENTITY REQUEST	
6	\rightarrow	IDENTITY RESPONSE(IMSI)	
7	←	AUTHENTICATION REQUEST	with the AUTN parameter having a correct MAC code
8	\rightarrow	AUTHENTICATION RESPONSE	"Auth.parameter RES" IE shall be bit exact with the value
			as produced by the authentication algorithm.
9	←	RRC CONNECTION RELEASE	
10	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	

Specific message contents

None.

9.2.3.5 Test requirement

- 1) At step 4 the UE shall send AUTHENTICATION FAILURE message with reject cause set to "MAC failure".
- 2) At step 6 the UE shall send an IDENTITY RESPONSE message including the IMSI.
- 3) At step 8 the UE shall send an AUTHENTICATION RESPONSE message.

9.2.4 Authentication rejected by the UE (SQN failure)

9.2.4.1 Definition

Following a UMTS authentication challenge, the UE may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the UE considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, it shall send an AUTHENTICATION FAILURE message to the network, with the reject cause 'Synch failure' and a re-synchronisation token AUTS provided by the USIM (see TS 33.102).

9.2.4.2 Conformance requirement

- A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'Synch failure' and parameter (AUTS) provided by the USIM (see TS 33.102).
- 2) Upon successfully validating the network (a second AUTHENTICATION REQUEST is received which contains a valid SQN) while T3216 is running, the UE shall send the AUTHENTICATION RESPONSE message to the network and shall start any retransmission timers (e.g. T3210, T3220 or T3230), if they were running and stopped when the UE received the first AUTHENTICATION REQUEST message containing an invalid SQN.

Reference(s)

TS 24.008 clause 4.3.2.5.1, 4.3.2.6 (d)

9.2.4.3 Test purpose

 To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION FAILURE message with the reject cause 'Synch failure' and parameter (AUTS) provided by the USIM (see TS 33.102).

Release 4

2) To check that upon successfully validating the network (a second AUTHENTICATION REQUEST is received which contains a valid SQN) while T3216 is running, the UE shall send the AUTHENTICATION RESPONSE message to the network.

9.2.4.4 Method of test

Initial conditions

- System Simulator:
 - 1 cell, default parameters.
- User Equipment:
 - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

Test procedure

The SS sends an AUTHENTICATION REQUEST having an invalid SQN code (i.e. uses the predefined $AMF_{RESYNCH}$ value to trigger the SQN re-synchronisation procedure, see TS 34.108 clause 8.1.2.2) to the UE. The SS verifies that the UE rejects the authentication.

The SS sends a second AUTHENTICATION REQUEST with a valid SQN code (i.e. uses an AMF value different from $AMF_{RESYNCH}$ value, see TS 34.108 clause 8.1.2.2). The SS checks that the UE accepts the authentication request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated	See TS 34.108 clause 7.1.2
			establishment of Radio	Establishment Cause: Terminating Conversational
			Resource Connection	Call.
2	-	>	PAGING RESPONSE	CKSN = CKSN1
3	•	÷	AUTHENTICATION REQUEST	with the AMF information field set to AMF _{RESYNCH}
				value to trigger SQN re-synchronisation procedure in
				test USIM, see TS 34.108 clause 8.1.2.2.
4	-	>	AUTHENTICATION FAILURE	including the AUTS parameter and with the reject
				cause set to 'Synch failure'
5	•	<u>,</u>	AUTHENTICATION REQUEST	with the AMF information field set to value different
				from AMF _{RESYNCH} value to cause test USIM to treat
				SQN value as valid, see TS 34.108 clause 8.1.2.2.
6	-	>	AUTHENTICATION	"Auth. parameter RES" IE shall be bit exact with the
			RESPONSE	value as produced by the authentication algorithm.
7	•	÷	RRC CONNECTION RELEASE	
8	-	>	RRC CONNECTION RELEASE	
			COMPLETE	

Specific message contents

None.

9.2.4.5 Test requirement

- 1) At step 4 the UE shall reject an authentication and the AUTHENTICATION FAILURE is sent to SS with reject cause "Synch failure".
- 2) At step 6 the UE shall send an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the XRES calculated by SS.

9.3 Identification

The purpose of this procedure is to check that the UE gives its identity as requested by the network. If this procedure does not work, it will not be possible for the network to rely on the identity claimed by the UE.

9.3.1 General Identification

9.3.1.1 Definition

9.3.1.2 Conformance requirement

- 1) When requested by the network the UE shall send its IMSI.
- 2) When requested by the network the UE shall send the TMSI which it was previously allocated.
- 3) When requested by the network the UE shall send its IMEI as stored in the UE.
- 4) When requested by the network the UE shall send its IMEISV as stored in the UE.

Reference(s)

TS 24.008 clause 4.3.3.

9.3.1.3 Test purpose

- 1) To verify that the UE sends identity information as requested by the system in the following cases: IMSI and TMSI are requested in non-security mode, IMEI is requested in security mode.
- 2) To verify that the UE sends its IMEI, when requested to do so, in non-security mode.
- 3) To verify that the UE sends its IMEISV, when requested to do so, in non-security mode.

9.3.1.4 Method of test

9.3.1.4.1 Identification / test 1

Initial conditions

- System Simulator:
 - 1 cell, default values.
- User Equipment:
 - the UE has a valid TMSI. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

IMEI of the UE.

Test Procedure

The SS requests identity information from the UE:

- IMSI in non security mode;
- allocated TMSI in non security mode;
- IMEI in security mode.

Step	Direction	Message	Comments
	UE SS		
1	÷	Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	Establishment Cause: Terminating Conversational Call.
2	\rightarrow	PAGING RESPONSE	
3	←	IDENTITY REQUEST	"Identity type" IE is IMSI.
4	\rightarrow	IDENTITY RESPONSE	"Mobile identity" IE specifies the IMSI of the UE.
5	<i>←</i>	IDENTITY REQUEST	"Identity type" IE is TMSI.
6	\rightarrow	IDENTITY RESPONSE	"Mobile identity" IE specifies the allocated TMSI of the
			UE.
7	←	SECURITY MODE COMMAND	
8	\rightarrow	SECURITY MODE COMPLETE	
9	←	IDENTITY REQUEST	"Identity type" IE is IMEI.
10	\rightarrow	IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEI stored in the UE.
11	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
12	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	

Specific message contents

None.

9.3.1.4.2 Identification / test 2

Initial conditions

- System Simulator:
 - 1 cell, default values.
- User Equipment:
 - the UE has a valid TMSI. It is in "idle updated".

Related ICS/IXIT statement(s)

IMEI of the UE.

IMEISV of the UE.

Test Procedure

The SS requests identity information from the UE:

- IMEI in non security mode;
- IMEISV in non security mode.

Step	Direction	Message	Comments
	UE SS		
1	←	Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	Establishment Cause: Terminating Conversational Call.
2	\rightarrow	PAGING RESPONSE	
3	←	IDENTITY REQUEST	"Identity type" IE is IMEI.
4	\rightarrow	IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEI of the UE.
5	←	IDENTITY REQUEST	"Identity type" IE is IMEISV.
6	\rightarrow	IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEISV of the UE.
7	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
8	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	

Specific message contents

None.

9.3.1.5 Test requirement

1) At step 4 in test 1 and test 2 the UE shall send its IMSI.

- 2) At step 6 in test 1 the UE shall send the TMSI which it was previously allocated.
- 3) At step 10 in test 1 the UE shall send its IMEI as stored in the UE.
- 4) At step 6 in test 2 the UE shall send its IMEISV as stored in the UE.

9.3.2 Handling of IMSI shorter than the maximum length

- 9.3.2.1 Definition
- 9.3.2.2 Conformance requirement

The UE shall be capable of handling an IMSI that is not of the maximum length.

Reference(s)

TS 24.008 clause 10.5.1.4.

9.3.2.3 Test purpose

To check that the UE behaves correctly when activated with an IMSI of length less than the maximum length.

In this condition, the UE shall:

- perform location updating;
- answer to paging with IMSI;
- give the correct IMSI when asked by an IDENTITY REQUEST;
- attempt CM connection establishment when requested to;
- attempt call re-establishment when needed;
- attempt IMSI detach when needed;
- erase its TMSI when the IMSI is sent by the network in a LOCATION UPDATING ACCEPT or a TMSI REALLOCATION COMMAND message.

9.3.2.4 Method of test

Initial conditions

- System Simulator:
 - 1 cell, default values;
 - IMSI attach/detach bit set to "1".
- User Equipment:
 - the UE has no valid TMSI;
 - it is "idle updated";
 - the IMSI has the value 001011234.

Related ICS/IXIT statement(s)

On/Off switch - Yes/No.

Foreseen final state of UE

The UE has no valid TMSI. It is in "idle, updated".

Test Procedure

The UE is paged with its IMSI. The UE shall answer to paging and include the correct IMSI in the PAGING RESPONSE message. During call establishment, the SS asks for the IMSI of the UE. The UE shall answer by an IDENTITY RESPONSE message including the correct IMSI. During the active phase of the call, the SS modifies the scrambling code of DL DPCH. The UE performs call re-establishment. The UE shall include the correct IMSI in the CM RE-ESTABLISHMENT message. a TMSI REALLOCATION COMMAND including a TMSI is sent to the UE. The UE acknowledges this message. The call is release.

The UE is paged with its TMSI. The UE shall answer to paging and includes its TMSI in the PAGING RESPONSE message. During call establishment, the SS sends a TMSI REALLOCATION COMMAND including the IMSI to the UE. The UE shall acknowledge this message. The UE shall erase its TMSI. The call is released.

The UE is switched off or has its power source removed. The UE performs IMSI detach. The UE shall include the correct IMSI in the IMSI DETACH INDICATION message.

The UE is switched on or powered on. The UE performs IMSI attach. The UE shall include the correct IMSI in the LOCATION UPDATING REQUEST message. A TMSI is allocated to the UE.

The LAC of the cell is changed. The UE performs location updating. The SS includes the IMSI in the LOCATION UPDATING ACCEPT message.

A mobile originated CM connection is attempted. The UE shall include the correct IMSI in the CM SERVICE REQUEST message.

Step	Direction	Message	Comments
	UE SS		
1	\	Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains IMSI of UE.
2	\rightarrow	PAGING RESPONSE	"mobile identity" contains the IMSI of the LIF
2	Ĺ		"identity type" IF is IMSI
1	à		"mobile identity" IE contains the IMSI of the LIE
5		IDENTITI REGI ONGE	The call is established using the sequence of the generic
5			termineting call set up procedure
6	22		The SS modifies the exampling ends of DL DDCH for
0			apparenting lower lower failure
60	<u>د</u>		
0a 6h	Ĺ		
60	22		The SS re-modifies the scrambling code of DL DPCH to
00			the original one
7	\rightarrow	RRC CONNECTION REQUEST	
8	é	RRC CONNECTION SETUP	
9	\rightarrow	RRC CONNECTION SETUP	
Ŭ		COMPLETE	
10	\rightarrow	CM REESTABLISHMENT	"mobile identity" IE contains IMSI of the UE.
		REQUEST	······································
10a	←	AUTHENTICATION REQUEST	
10b	\rightarrow	AUTHENTICATION RESPONSE	
10c	←	SECURITY MODE COMMAND	
10d	\rightarrow	SECURITY MODE COMPLETE	
11	÷	TMSI REALLOCATION	"mobile identity" contains a TMSI.
		COMMAND	
12	\rightarrow	TMSI REALLOCATION	
		COMPLETE	
13	÷	RRC CONNECTION RELEASE	After sending this message, the SS waits for the
			disconnection of the main signalling link.
14	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
15	÷	Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	"Initial UE identity" IE contains TMSI of UE.
10		DACING RESPONSE	Establishment cause: Terminating Conversational Call.
10			
10			
180			
10d			
100			"mobile identity" contains a IMSL of LIE
19			
20	\rightarrow		
20	,	COMPLETE	
21	←	RRC CONNECTION RELEASE	
22	\rightarrow	RRC CONNECTION RELEASE	
	-	COMPLETE	
23	UE		If possible (see ICS) the UE is switched off, otherwise the
_	_		UE has its power source removed.
24	\rightarrow	RRC CONNECTION REQUEST	If the UE was switched off it performs IMSI detach.
			"Establishment cause": Detach
25	←	RRC CONNECTION SETUP	
26	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
27	\rightarrow	IMSI DETACH INDICATION	"mobile identity" contains IMSI of UE.
28	÷	RRC CONNECTION RELEASE	
29	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
30	UE		The UE is switched on or has power restored.
31	\rightarrow	RRC CONNECTION REQUEST	
32	⊢ ←	RRC CONNECTION SETUP	
33	→	RRC CONNECTION SETUP	
1		COMPLETE	

Step	Direction	Message	Comments
	UE SS		
34	\rightarrow	LOCATION UPDATING	"mobile identity" contains IMSI of UE.
		REQUEST	
35	←	LOCATION UPDATING ACCEPT	"mobile identity" contains a TMSI.
36	\rightarrow	TMSI REALLOCATION	
		COMPLETE	
37	←	RRC CONNECTION RELEASE	
38	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
39	SS		The SS changes the LAC of the cell.
40	\rightarrow	RRC CONNECTION REQUEST	Shall be sent within 35s of the LAC being changed.
41	←	RRC CONNECTION SETUP	
42	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
43	\rightarrow	LOCATION UPDATING	"mobile identity" contains TMSI of the UE.
		REQUEST	
44	←	LOCATION UPDATING ACCEPT	"mobile identity" contains IMSI of the UE.
45	←	RRC CONNECTION RELEASE	
46	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
47	UE		a mobile originated CM connection is attempted.
48	\rightarrow	RRC CONNECTION REQUEST	
49	←	RRC CONNECTION SETUP	
50	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
51	\rightarrow	CM SERVICE REQUEST	"mobile identity" contains IMSI of the UE.
52	←	RRC CONNECTION RELEASE	
53	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	

Specific message contents

None.

9.3.2.5 Test requirement

At step 34 the UE shall performs location updating.

At step 2 the UE shall answer to paging with IMSI.

At step 4 the UE shall answer the correct IMSI to the SS by an IDENTITY RESPONSE message.

At step 51 the UE shall attempt CM connection establishment and include the correct IMSI in the CM SERVICE REQUEST message.

At step 10 the UE shall perform call re-establishment with the correct IMSI in the CM RE-ESTABLISHMENT message.

At step 19 the IMSI is sent by the network in a TMSI REALLOCATION COMMAND message, at step 27 the UE shall attempt IMSI detach.

At step 44 the IMSI is sent by the network in a LOCATION UPDATING ACCEPT message, at step 51 the UE shall attempt IMSI detach.

9.4 Location updating

This procedure is used to register the UE in the network. If it is not performed correctly, no call can be established.

9.4.1 Location updating / accepted

- 9.4.1.1 Definition
- 9.4.1.2 Conformance requirement

1.

- 1.1 if the network accepts a location updating from the UE and reallocates a TMSI in the LOCATION UPDATING ACCEPT message the UE shall acknowledge the reception of the new TMSI;
- 1.2 the UE shall answer to paging with this TMSI and include it in a PAGING RESPONSE message.
- 2 If the network accepts a location updating from the UE and the LOCATION UPDATING ACCEPT message contains neither TMSI nor IMSI, the UE shall answer to paging when addressed with the last allocated TMSI and include it in the PAGING RESPONSE message.

3.

- 3.1 if the network accepts a location updating from the UE by use of a LOCATION UPDATING ACCEPT message containing the IMSI of the UE, the UE shall not answer paging with the last allocated TMSI;
- 3.2 the UE shall still answer paging with IMSI.

Reference(s)

TS 24.008 clause 4.4.4.6.

9.4.1.3 Test purpose

1) To test the behaviour of the UE if the network accepts the location updating of the UE.

For the network response three different cases are identified:

- 1.1) TMSI is allocated;
- 1.2) location updating accept contains neither TMSI nor IMSI;
- 1.3) location updating accept contains IMSI.

9.4.1.4 Method of test

Initial conditions:

- System Simulator:
 - two cells, A and B, belonging to different location areas with location area identification a and b of the same PLMN;
 - IMSI attach/detach is allowed in both cells;
 - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
 - the UE has a valid TMSI (=TMSI1) and CKSN (=CKSN1). It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

None.

Test Procedure

The UE is made to select cell B. A normal location updating with TMSI reallocation is performed in cell B. The RRC CONNECTION is released. The SS checks, by paging, that the UE has stored the newly allocated TMSI. The RRC CONNECTION is released. The UE is made to select cell A. A normal location updating is performed in cell A. The LOCATION UPDATING ACCEPT message contains neither IMSI nor TMSI. The SS checks, by paging, that the UE has kept the old TMSI. The RRC CONNECTION is released. The LOCATION UPDATING ACCEPT message contains neither IMSI nor TMSI. The SS checks, by paging, that the UE has kept the old TMSI. The RRC CONNECTION is released. The UE is made to select cell B. A normal location updating is performed in cell B. The LOCATION UPDATING ACCEPT message contains an IMSI. The SS checks, by paging, that the UE has deleted its TMSI and responds to paging with IMSI.

Expected sequence

Step	Step Direction Message	Comments	
	UE SS		
1	SS		The RF level of cell A is lowered until the UE selects cell B-Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)
2	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	÷	RRC CONNECTION SETUP	
4	\rightarrow	RRC CONNECTION SETUP	
	, í	COMPLETE	
5	→	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = a, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI1.
5a	÷	SECURITY MODE COMMAND	
5b	\rightarrow	SECURITY MODE COMPLETE	
6	÷	LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI (=TMSI2), LAI = b.
7	\rightarrow	TMSI REALLOCATION	
		COMPLETE	
8	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
9	\rightarrow	RRC CONNECTION RELEASE	
10	÷	Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.1.2 "Initial UE identity" IE contains the new TMSI (= TMSI2). Establishment Cause: Terminating Conversational Call.
11	\rightarrow	PAGING RESPONSE	"Mobile identity" IF contains the new TMSI (= TMSI2)
12	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
12	,		disconnection of the main signalling link
13	\rightarrow	RRC CONNECTION RELEASE	
14	SS		The RF level of cell B is lowered until the UE selects cell A-Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell". (NOTE)
15	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause". Registration
16	, →	RRC CONNECTION SETUP	
17	l →	RRC CONNECTION SETUP	
	,	COMPLETE	
18	<i>→</i>	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = b, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMS12
10	4		"Mobile identity" IF not included
20	, È	RRC CONNECTION RELEASE	After the sending of this message the SS waits for the
20		THE CONNECTION RELEASE	disconnection of the main signalling link. The SS waits of the amount of time which is enough to guarantee that the UE is in service.
21	$ \rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
22	÷	Mobile terminated establishment of Radio Resource Connection	See TS 34.108 clause 7.12.2 "Initial UE identity" IE contains the TMSI (= TMSI2). Establishment Cause: Terminating Conversational Call.

Step	Direction	Message	Comments
	UE SS		
23	\rightarrow	PAGING RESPONSE	"Mobile identity" IE contains the TMSI (=TMSI2).
24	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
25	\rightarrow	RRC CONNECTION RELEASE	
26	SS		The RF level of cell A is lowered until the UE selects cell
			B.Set the cell type of cell B to the "Serving cell".
			Set the cell type of cell A to the "non-suitable cell".
27	\rightarrow	BBC CONNECTION REQUEST	"Establishment cause": Registration
28	÷	RRC CONNECTION SETUP	
29	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
30	\rightarrow	LOCATION UPDATING	"location updating type" = normal, "CKSN" = CKSN1,
		REQUEST	"location area identification" = a, "mobile station
			TMS12
31	←	LOCATION UPDATING ACCEPT	"Mobile identity" IF contains IMSI
32	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link. The SS waits an
			amount of time which is enough to guarantee that the UE
			is in service.
33	7	COMPLETE	
3/	6		"LE identity" IF contains the old TMSI (- TMSI2)
54	,		Paging Cause: Terminating Conversational Call.
35	UE		The UE shall ignore this message. This is checked during
			5 s.
36	←	Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	"Initial UE identity" IE contains the IMSI.
37	\rightarrow	PAGING RESPONSE	"Mobile identity" IE contains the IMSI
38	-	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
39	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	
NOTE:	The definition	ns for "Serving cell" and "non-suitab	le cell" are specified in TS 34.108 clause 6.1 "Reference

Radio Conditions for signalling test cases only".

Specific message contents

None.

9.4.1.5 Test requirement

At step 7 the UE shall acknowledge the reception of the new TMSI (TMSI2).

At step 11 the UE shall answer to paging with this TMSI (TMSI2).

At step 23 the UE shall answer to paging with the last allocated TMSI (TMSI2).

At step 35 the UE shall not answer paging with the last allocated TMSI, but at step 37 the UE shall still answer paging with IMSI.

9.4.2 Location updating / rejected

9.4.2.1 Location updating / rejected / IMSI invalid

9.4.2.1.1 Definition

9.4.2.1.2 Conformance requirement

- 1) If the network rejects a location updating from the UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" the UE shall:
 - 1.1 not perform normal location updating;
 - 1.2 not perform periodic location updating;
 - 1.3 not respond to paging with IMSI;
 - 1.4 not respond to paging with TMSI;
 - 1.5 reject any request from CM entity for MM connection other than for emergency call;
 - 1.6 not perform IMSI detach if it is switched off or has its power source removed.
- 2) If the network rejects a location updating from the UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" the UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call" and include an IMEI as mobile identity in the CM SERVICE REQUEST message.
- 3) If the network rejects a location updating from the UE with the cause "IMSI unknown in HLR", "Illegal MS" or "Illegal ME" the UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.1.3 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "IMSI unknown in HLR", "illegal MS" or "Illegal ME".

9.4.2.1.4 Method of test

Initial conditions

- System Simulator:
 - two cells: A and B, belonging to different location areas of the same PLMN;
 - IMSI attach/detach is allowed in both cells;
 - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
 - the UE has valid TMSI, CKSN and CK, IK. It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

USIM removal possible while the UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

Test Procedure

The SS rejects a normal location updating with the cause value "IMSI unknown in HLR". The RRC CONNECTION is released. The SS checks that the UE has entered the state MM IDLE and the substate NO IMSI, i.e. does not perform normal location updating when a new cell of the same or another PLMN is entered, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if it is switched off or has its power source removed.

The test is repeated with cause value "Illegal MS" and with cause value "Illegal ME".

Expected sequence

The sequence is executed for execution counter k = 1, 2, 3.

Step	Direction	Message	Comments
	UE SS		
1	SS		The following messages are sent and shall be received on cell B. The RF level of cell A is lowered until the UE selects cell B-Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell".
2	د		(NOTE) "Establishment cause": Registration
3	÷	RRC CONNECTION SETUP	Establishment cause . Registration.
4	\rightarrow	RRC CONNECTION SETUP	
5	\rightarrow	LOCATION UPDATING REQUEST	
6	÷	LOCATION UPDATING REJECT	"Reject cause" IE is "IMSI unknown in HLR" for $k = 1$,
7	<u>→</u> <u>←</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	\rightarrow	RRC CONNECTION RELEASE COMPLETE	
9	SS		The following messages are sent and shall be received on cell A. The RF levels are then changed again to make the UE reselect the cell A.Set the cell type of cell A to the "Serving cell"
10	UE		Set the cell type of cell B to the "non-suitable cell". (NOTE) The UE performs cell reselection according to procedure as specified in (this however is not checked until step 23). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11	SS		The SS waits at least 7 minutes for a possible periodic
12	UE		updating. The UE shall not initiate an RRC connection establishment on cell A or on cell B.
13	÷	PAGING TYPE 1	The UE is paged in cell A. "UE identity" IE contains IMSI.
14	UE		The UE shall ignore this message. This is verified during 3 s.
15	÷	PAGING TYPE 1	The UE is paged in cell A. "UE identity" IE contains TMSI.
16	UE		The UE shall ignore this message. This is verified during 3 s.
17 18	UE UE		A MO CM connection is attempted. The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
19	UE		If the UE supports speech (see ICS), it is made to perform an emergency call
20	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
This me	ssage is sent		
21	$\stackrel{\leftarrow}{\rightarrow}$	RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	
23	\rightarrow	CM SERVICE REQUEST	"CM service type": Emergency call establishment. "Mobile identity": type of identity is set to IMEI.
24	÷	CM SERVICE ACCEPT	· · · ·
25	→ ←	EMERGENCY SETUP RELEASE COMPLETE	"Cause" = unassigned number.
27	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
28	\rightarrow	RRC CONNECTION RELEASE COMPLETE	

Step	Direc	ction	Message	Comments	
	UE	SS			
29	UE			If possible (see ICS) USIM detachment is performed.	
				Otherwise the power is removed.	
30	U	E		The UE shall not initiate an RRC connection	
				establishment on cell A or on cell B. This is checked during 3 s.	
31	U	E		Depending on what has been performed in step 31 the	
				UE is brought back to operation.	
32		→	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
33	÷		RRC CONNECTION SETUP		
34		>	RRC CONNECTION SETUP		
35	-	>	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "mobile station classmark 1" as given by the ICS, "Mobile Identity" = IMSI, "LAI" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).	
36	<		AUTHENTICATION REQUEST	"CKSN" = CKSN1.	
37	_	>	AUTHENTICATION RESPONSE		
38	€	-	LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.	
39	-	>	TMSI REALLOCATION		
40	•	<u>.</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
41	-	>	RRC CONNECTION RELEASE		
NOTE:	The de	efinitio	ns for "Serving cell" and "non-suitabl	le cell" are specified in TS 34.108 clause 6.1 "Reference	
	Radio Conditions for signalling test cases only"				

Specific message contents

None.

9.4.2.1.5 Test requirement

- 1) 1.1 At step 10 the UE shall not perform normal location updating.
 - 1.2 At step 12 the UE shall not perform periodic location updating.
 - 1.3 At step 14 the UE shall not respond to paging with IMSI.
 - 1.4 At step 16 the UE shall not respond to paging with TMSI.
 - 1.5 At step 18 the UE shall reject a MO CM connection.
 - 1.6 At step 30 the UE shall not initiate an RRC connection establishment on cell A or on cell B.
- 2) At step 20 the UE shall accept a request for an emergency call with the establishment cause set to "Emergency call".
- 3) At step 35 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the LAI "deleted LAI".

9.4.2.2 Location updating / rejected / PLMN not allowed

- 9.4.2.2.1 Definition
- 9.4.2.2.2 Conformance requirement
 - 1) If the network reject a location updating from the UE with the cause "PLMN not allowed" the UE shall:

- 1.1 not perform periodic updating;
- 1.2 not perform IMSI detach when switched off;
- 1.3 not perform IMSI attach when switched on in the same location area;
- 1.4 not perform normal location updating when in the same PLMN and when that PLMN is not selected manually;
- 1.5 reject any request from CM entity for MM connection other than for emergency call.
- 2) If the network rejects a location updating from the UE with the cause "PLMN not allowed" the UE shall:
 - 2.1 perform normal location updating when a new PLMN is entered;
 - 2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call".
- 3) If the network rejects a location updating from the UE with the cause "PLMN not allowed" and if after that the PLMN from which this rejection was received, is manually selected, the UE shall perform a normal location updating procedure.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.2.3 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "PLMN not allowed".

9.4.2.2.4	Method of	test
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9.4.2.2.4.1 Location updating / rejected / PLMN not allowed / test 1

Initial conditions

- System Simulator:
 - one cell: C, belonging to PLMN1;
 - two cells: A and B, belonging to different location areas a and b and belonging to PLMN2. PLMN2 is different from HPLMN and from PLMN1;
 - IMSI attach/detach is allowed in cells A and B but not in cell C;
 - the T3212 time-out value is 1/10 hour in cells A and B.
- User Equipment:
 - the UE has a valid TMSI. It is "idle updated" on cell C;
 - the UE is in manual mode for PLMN selection.

Related ICS/IXIT statement(s)

USIM removal possible while the UE is powered Yes/No.

Switch off on button Yes/No.

The UE is automatically in automatic mode after switch on Yes/No.

Support for speech Yes/No.

Test Procedure

The SS rejects a normal location updating with the cause value "PLMN not allowed". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic updating, does not perform IMSI detach, does not perform IMSI attach if activated in the same location area, rejects any request for CM connection establishment other than emergency call, accepts a request for an emergency call and performs normal location updating only when a new PLMN is entered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1 2	U	E S		The following messages are sent and shall be received on cell B. The UE is switched off (or power is removed). The SS activates cells A and B and deactivates cell C. Cell B has a level higher by at least 5 dB than cell A. <u>Set</u> the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "Suitable neighbor cell".
3	U	E		Set the cell type of cell C to the "non-suitable cell". (NOTE) The UE is switched on. (or power is reapplied) If necessary the UE is put in manual selection mode. The UE shall offer the new PLMN as available to the user.
4 5 6	→	→ - >	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	"Establishment cause": Registration.
7	-	>		
8 9	+ +	_	LOCATION UPDATING REJECT RRC CONNECTION RELEASE	"Reject cause" = PLMN not allowed. After the sending of this message, the SS waits for the disconnection of the main signalling link
10	-	>	RRC CONNECTION RELEASE	
11	S	S		The SS waits for a possible periodic updating for 7
12	U	E		The UE shall not initiate an RRC connection establishment on cell A or on cell B.
13	U	E		If possible (see ICS) USIM detachment is performed.
14	U	E		Otherwise the power is removed. The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 s.
15	U	E		Depending on what has been performed in step 13 the
16	U	E		Select PLMN 2. The UE shall not initiate an RRC connection establishment. This is checked during 3 s.
17	S	S		The following message are sent and shall be received on cell A. The RF level of cell B is lowered to make the UE reselect cell A.Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbor cell".
18	U	E		(NOTE) No access to the network shall be registered by the SS within one minute.
19	U	E		If the UE supports speech (see ICS) it is made to perform
20 21 22	+ + + +	→ - →	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	an emergency. "Establishment cause": Emergency Call.
23	-	>	COMPLETE CM SERVICE REQUEST	"CM service type" = Emergency call establishment.

Step	Direction	Message	Comments
	UE SS		
24 25 26 27	$\begin{array}{c} - \\ + \\ + \\ + \\ + \\ + \end{array}$	CM SERVICE ACCEPT EMERGENCY SETUP RELEASE COMPLETE RRC CONNECTION RELEASE	Cause IE: "unassigned number". After the sending of this message, the SS waits for the disconnection of the main signalling link.
28	\rightarrow	RRC CONNECTION RELEASE COMPLETE	
29 30	UE UE		A MO CM connection is attempted. The UE shall not initiate an RRC connection establishment. This is checked during 3 s.
31 32	UE SS		The following messages are sent and shall be received on cell C. The UE is switched off. The SS activates cell C and deactivates cells A and B.Set the cell type of cell C to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". Set the cell type of cell B to the "non-suitable cell".
33	UE		(NOTE) The UE is switched on. If necessary the UE is placed into
34 35 36	$\begin{array}{c} \rightarrow \\ \leftarrow \\ \rightarrow \end{array}$	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	"Establishment cause": Registration.
37	→	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile identity" = IMSI.
38 39	\leftarrow	LOCATION UPDATING ACCEPT TMSI REALLOCATION	"Mobile identity" = TMSI.
40	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
41	→	RRC CONNECTION RELEASE	

clause 6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents:

None.

9.4.2.2.4.2 Location updating / rejected / PLMN not allowed / test 2

Initial conditions

- System Simulator:
 - one cell C, belonging to PLMN1;
 - two cells A and B, belonging to different location areas a and b and belonging to PLMN2. PLMN2 is different from HPLMN;
 - IMSI attach/detach is allowed in cells A and B but not in cell C;
 - the T3212 time-out value is 1/10 hour in cells A and B.
- User Equipment:
 - the UE has a valid TMSI. It is "idle updated" on cell C.

Related ICS/IXIT statement(s)

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

The UE is automatically in automatic mode after switch on Yes/No.

Test Procedure

The SS rejects a normal location updating with the cause value "PLMN not allowed". The RRC CONNECTION is released. Then the PLMN from which this rejection was received is manually selected and the SS checks that a normal location updating is performed.

Step	Direction	Message	Comments		
	UE SS	1			
1 2	UE SS		The following messages are sent and shall be received on cell B. The UE is switched off (or power is removed). The SS activates cells A and B and deactivates cell C. Cell B has a level higher by at least 5 dB than cell A. <u>Set</u> the cell type of cell B to the "Serving cell".		
3 3a	UE UE		Set the cell type of cell C to the "non-suitable cell". (NOTE) The UE is switched on (or power is reapplied). If the UE is in manual mode, it shall offer the new PLMN as available to the user. In this case the PLMN is manually selected.		
4 5 6	$ \begin{array}{c} \rightarrow \\ \leftarrow \\ \rightarrow \end{array} $	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	"Establishment cause": Registration.		
7	\rightarrow	LOCATION UPDATING			
8 9	← ←	LOCATION UPDATING REJECT RRC CONNECTION RELEASE	"Reject cause" = PLMN not allowed. After the sending of this message, the SS waits for the disconnection of the main signalling link.		
10	\rightarrow	RRC CONNECTION RELEASE			
11	UE		The UE is made to search for PLMNs and the PLMN indicated by the SS is manually selected		
12 13 14	$ \begin{array}{c} \rightarrow \\ \leftarrow \\ \rightarrow \end{array} $	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	"Establishment cause": Registration.		
15	<i>→</i>	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile		
16	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.		
17	\rightarrow	RRC CONNECTION RELEASE COMPLETE			
The follo	wing messa	ges are sent and shall be received or	n cell C.		
18 19	UE SS		The UE is switched off. The SS activates cell C and deactivates cells A and B.Set the cell type of cell C to the "Serving cell". Set the cell type of cell A to the "non-suitable cell".		
			Set the cell type of cell B to the "non-suitable cell".		
20	UE		The UE is switched on. If necessary, the UE is put into the automatic mode.		
21	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.		
22 23	$\left \begin{array}{c} \leftarrow \\ \rightarrow \end{array} \right $	RRC CONNECTION SETUP			
24	→	COMPLETE LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile		
25 26	$\stackrel{\leftarrow}{\rightarrow}$	LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETE	"Mobile identity" = TMSI.		
27	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link		
28	\rightarrow	RRC CONNECTION RELEASE COMPLETE			
NOTE:	NOTE: The definitions for "Serving cell", "Suitable neighbor cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".				

Specific message contents

None.

9.4.2.2.5 Test requirement

- 1) 1.1 At step 12 in test 1 the UE shall not perform periodic updating.
 - 1.2 At step 14 in test 1 the UE shall not initiate an RRC connection establishment (IMSI detach).
 - 1.3 At step 16 in test 1 the UE shall not initiate an RRC connection establishment (IMSI attach).
 - 1.4 At step 16 in test 1 the UE shall not perform normal location updating.
 - 1.5 At step 2930 in test 1 the UE shall reject a MO CM connection.
- 2) 2.1 At step 37 in test 1 the UE shall perform normal location updating.
 - 2.2 At step 20 in test 1 the UE shall accept a request for an emergency call with the establishment cause set to "Emergency call".
- 3) At step 11 in test 2 the UE is made to search for PLMNs and the PLMN indicated by the SS is manually selected, and at step 15 the UE shall perform a normal location updating procedure.

9.4.2.3 Location updating / rejected / location area not allowed

9.4.2.3.1 Definition

9.4.2.3.2 Conformance requirement

- 1) If the network rejects a location updating from the UE with the cause "Location Area not allowed" the UE shall:
 - 1.1 not perform periodic updating;
 - 1.2 not respond to paging with TMSI;
 - 1.3 reject any request from CM entity for MM connection other than for emergency call;
 - 1.4 not perform IMSI detach.
- 2) If the network rejects a location updating from the UE with the cause "Location Area not allowed" the UE shall:
 - 2.1 perform normal location updating when a new location area is entered;
 - 2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call";
 - 2.3 delete the list of forbidden LAs after switch off (power off).

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.3.3 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "Location Area not allowed".

To test that the UE deletes the list of forbidden LAs after switch off (power off).

9.4.2.3.4 Method of test

Initial conditions

- System Simulator:
 - two cells: A and B, belonging to different location areas a and b;
 - IMSI attach/detach is allowed in both cells;
 - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
 - the UE has a valid TMSI. It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

Switch off on button Yes/No.

Support for speech Yes/No.

Method to clear the list of forbidden location areas periodically.

Test Procedure

The SS rejects a normal location updating with the cause value "Location Area not allowed". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic updating, does not respond to paging with TMSI, rejects any requests from CM entities for MM-connections except emergency calls, does not perform IMSI detach, performs normal location updating when a new location area is entered and deletes the list of forbidden LAs when switched off.

Different types of UE may use different methods to periodically clear the list of forbidden location areas (e.g. every day at 12am). If the list is cleared while the test is being run, it may be necessary to re-run the test.

Step	Direction	Message	Comments	
	UE SS			
1	SS		The following messages are sent and shall be received on cell B. The RF level of cell A is lowered so that cell B is selected, while keeping the C1 and C2 of cell A greater	
			than 10.Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)	
2	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
3 4	$\stackrel{\leftarrow}{\rightarrow}$	RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE		
5	\rightarrow	LOCATION UPDATING REQUEST		
6	←	LOCATION UPDATING REJECT	"Reject cause" = "Location Area not allowed".	
7	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the mainsignalling link.	
8	→ ~	COMPLETE	CO waite for a nearlible location we define for 7 minutes	
9 10	55 LIE		The LIE shall not initiate an RRC-connection	
11	↔	PAGING TYPE 1	establishment either on cell A or cell B. The UE is paged in cell B. "UE identity" = TMSI.	
12	UE		Paging Cause: Terminating Conversational Call. The UE shall ignore this message. This is checked during	
10			3 S.	
13	UE		The LIF shall not initiate an RRC connection	
1.4	0L		establishment on cell A or cell B. This is checked during 3 s.	
15	UE		If the UE supports speech (see ICS), it is made to perform an emergency call.	
16	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Emergency call.	
17 18	\rightarrow	RRC CONNECTION SETUP RRC CONNECTION SETUP		
19	\rightarrow	CM SERVICE REQUEST	"CM service type": Emergency call establishment.	
20	←	CM SERVICE ACCEPT		
21	\rightarrow	EMERGENCY SETUP		
22	←	RELEASE COMPLETE	Cause: "unassigned number".	
23	<pre></pre>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
24	→ 	COMPLETE		
25	UE		It possible (see ICS) switch off is performed. Otherwise the power is removed.	
26	UE		establishment on cell A or on cell B (check for IMSI detach) This is checked during 3 s.	
27	UE		Depending on what has been performed in step 25 the UE is brought back to operation.	
28	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
29 30	$\left \begin{array}{c} \leftarrow \\ \rightarrow \end{array} \right $	RRC CONNECTION SETUP		
31	→	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI, "mobile identity" = IMSI (This checks the deletion of the forbidden liste)	
32	←	LOCATION LIPDATING REJECT	"Reject cause" = "Location Area not allowed"	
33	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
34	\rightarrow	RRC CONNECTION RELEASE		

The following messages are sent and shall be received on cell A.

Step	Direction	Message	Comments			
	UE SS					
35	SS		The RF level of cell B is lowered until the UE selects cell			
			A.Set the cell type of cell A to the "Serving cell".			
			Set the cell type of cell B to the "non-suitable cell".			
			(NOTE)			
36	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.			
37	←	RRC CONNECTION SETUP				
38	\rightarrow	RRC CONNECTION SETUP				
		COMPLETE				
39	\rightarrow	LOCATION UPDATING				
		REQUEST				
40	←	AUTHENTICATION REQUEST				
41	\rightarrow	AUTHENTICATION RESPONSE				
42	←	LOCATION UPDATING ACCEPT	Mobile identity = TMSI.			
43	\rightarrow	TMSI REALLOCATION				
		COMPLETE				
44	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the			
			disconnection of the main signalling link.			
45	\rightarrow	RRC CONNECTION RELEASE				
		COMPLETE				
NOTE:	NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference					
	Radio Conditions for signalling test cases only".					

Specific message contents

None.

9.4.2.3.5 Test requirement

- 1) 1.1 At step 10 the UE shall not perform periodic updating.
 - 1.2 At step 12 the UE shall not respond to paging with TMSI.
 - 1.3 At step 14 the UE shall not initiate an RRC connection establishment.
 - 1.4 At step 26 the UE shall not initiate an RRC connection establishment (IMSI detach).
- 2) 2.1 At step 39 the UE shall perform normal location updating.
 - 2.2 At step 16 the UE shall accept a request for an emergency call.
 - 2.3 At step 31 the UE shall send a LOCATION UPDATING REQUEST message with the LAI "deleted LAI".

9.4.2.4 Location updating / rejected / roaming not allowed in this location area

- 9.4.2.4.1 Definition
- 9.4.2.4.2 Conformance requirement
 - 1) If the network rejects a location updating from the UE with the cause "Roaming not allowed in this <u>location</u> area" the UE shall:
 - 1.1 not perform periodic updating;
 - 1.2 not respond to paging with TMSI;
 - 1.3 reject any request from CM entity for MM connection other than for emergency call;
 - 1.4 not perform IMSI detach.
- 2) If the network rejects a location updating from the UE with the cause "Roaming not allowed in this <u>location</u> area" the UE shall:

- 2.1 perform normal location updating when a new location area is entered;
- 2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call";
- 2.3 periodically search for its HPLMN.
- 3) The UE shall reset the list of "Forbidden location areas for roaming" when it is switched off or has its power source removed or when the USIM is removed.
- 4) The UE shall be capable of storing at least 6 entries in the list of "Forbidden location areas for roaming". The UE shall contain a list of "forbidden location areas for roaming". The location area identification received on the BCCH that triggered the location updating request shall be added to the suitable list whenever a LOCATION UPDATE REJECT message is received with the cause "Roaming not allowed in this location area". The lists shall accommodate each 10 or more location area identifications.

Reference(s)

TS 24.008 clause 4.4.4.7.

9.4.2.4.3 Test purposes

Test purpose 1

To test that on receipt of a rejection using the Roaming cause code, the UE ceases trying to update on that cell, that this situation continues for at least one periodic location interval period, and that the corresponding list is re-set by switching off the UE or removing its power source.

Test purpose 2

To test that if no cell is available, the UE does not answer to paging with TMSI, rejects a request from CM entity other than for emergency calls.

Test purpose 3

To test that at least 6 entries can be held in the list of "forbidden location areas for roaming" (the requirement in is to store at least 10 entries. This is not fully tested by the third procedure).

Test purpose 4

To test that if a cell of the Home PLMN is available then the UE returns to it in preference to any other available cell.

Test purpose 5

To test that if the USIM is removed the list of "forbidden location areas for roaming" is cleared.

9.4.2.4.4 Method of test

Initial conditions

The initial conditions shall be met before each of the different procedures.

- System Simulator:
 - for procedures 1, 2, 3 and 5: Two cells A and B, belonging to different location areas of the same PLMN with LAI a and b. The MCC of that PLMN is the same as that of the HPLMN. The MNC of that PLMN is different from that of the HPLMN;
 - for procedure 4: three cells A, B, C of the same PLMN which is not the HPLMN with 3 different location area codes. Cells should differ in signal strength by 10 dB with cell A being the strongest and cell C the weakest. There should be a 20 dB range between A and C. A should be set to a level of 40 dBm;

- IMSI attach/detach is allowed in every cell;
- the T3212 time-out value is 1/10 hour in every cell.
- User Equipment:
 - procedures 1, 2, 3 and 5: The UE has valid TMSI, CKSN and CK, IK. It is "idle updated" on cell B;
 - procedure 4: The UE has valid TMSI, CKSN and CK, IK. It is "idle updated" on cell A;
 - the list of "forbidden location areas for roaming" shall be empty (this may be achieved by either removing the USIM or switching the UE OFF then ON or removing the UE power source depending on ICS).

Related ICS/IXIT statement(s)

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

Method to clear the list of location areas for roaming periodically.

The UE is automatically in automatic mode after switch on Yes/No.

Test Procedures

Procedure 1:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this <u>location</u> area". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic location updating procedure. The UE is turned off and then on. The SS checks that the UE performs location updating on the cell on which its location update request had been rejected (this checks that the LA is not the forbidden list after switch on). This procedure is performed another time but the deletion of the list is checked while removing the USIM (instead of turning off the UE).

Procedure 2:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this <u>location</u> area". The RRC CONNECTION is released. The SS checks that the UE does not answer to a paging message with TMSI, rejects a request from CM entity but supports an emergency call.

Procedure 3:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this <u>location</u> area". This is done for 6 different location areas. Then the SS checks that the UE does not attempt to begin a location updating procedure on the non-allowed location areas.

Procedure 4:

- The SS accepts a periodic location updating on a cell not belonging to the HPLMN. Then when the UE attempts to perform a periodic location updating to this cell, the SS rejects this location updating with the cause value "Roaming not allowed in this <u>location</u> area". Two cells are then available, one belonging to the HPLMN but with the weakest level. It is checked that the UE returns to its HPLMN.

Procedure 5: If USIM removal is possible while UE is powered:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this <u>location</u> area". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic location updating procedure. The USIM is removed and inserted in the UE. The SS checks that the UE performs location updating on the cell on which its location update request had been rejected (this checks that the LA is not the forbidden list after switch on).

Different types of UE may use different methods to periodically clear the list of forbidden areas (e.g. every day at 12am) for roaming. If the list is cleared while the test is being run, it may be necessary to re-run the test.

The following procedure is used during the test:

- change_LAI (x):
 - the purpose of this procedure is to change the value of Location Area Identifier of cell x;
 - the Location Area Identifier of cell x shall be changed. The code shall be chosen arbitrarily but shall be different from any previously used in this procedure. The code shall have the same MCC as the Home PLMN and shall not have the same MNC as the Home PLMN.

Procedure 1

Step	Direction	Message	Comments	
	UE SS	1		
1	SS		The following messages are sent and shall be received on cell A. The RF level of cell B is lowered until cell B is no more suitable and the UE selects cell A. <u>Set the cell type of cell</u> A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell".	
2 3 4	$ \begin{array}{c} \\ \\ \\ \\ \\ \\ \end{array} $	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	"Establishment cause": Registration.	
5	\rightarrow	LOCATION UPDATING REQUEST	Location Updating Type = normal.	
6	÷	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".	
7	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
8	\rightarrow	RRC CONNECTION RELEASE		
9	SS		The SS waits at least 7 minutes for a possible location	
10	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B.	
11	UE		If possible (see ICS) the UE is switched off. Otherwise if possible the power is removed.	
12	UE		Depending on what has been performed in step 11 the UE is brought back to operation and placed in an automatic mode.	
13	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
14	←	RRC CONNECTION SETUP		
15	\rightarrow	RRC CONNECTION SETUP		
16	\rightarrow	LOCATION UPDATING REQUEST	Location Updating Type = normal.	
17	←	LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.	
18	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the	
19	→	RRC CONNECTION RELEASE COMPLETE	disconnection of the main signalling link.	
NOTE:	The definitio	ns for "Serving cell" and "non-suitab	le cell" are specified in TS 34.108 clause 6.1 "Reference	
	Radio Conditions for signalling test cases only".			

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Procedure 2

Step	Direction	Message	Comments
	UE SS		
			The following messages are sent and shall be received
			on cell A.
1	SS		The RF level of cell B is lowered until the UE selects cell
			A. The level of cell B shall be such that cell B is suitable
			for cell selection. Set the cell type of cell A to the "Serving
			<u>cell".</u>
			Set the cell type of cell B to the "Suitable neighbor cell".
			(NOTE)
2	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.
			This message is sent on cell A.
3	←	RRC CONNECTION SETUP	
4	\rightarrow	RRC CONNECTION SETUP	
5			
Э	7		
6	4		"Poiset equae" IF is "Poeming not allowed in this location
0		LOCATION OPDATING REJECT	
7	4		After the conding of this message, the SS waits for the
		INTO CONNECTION RELEASE	disconnection of the main signalling link
R	\rightarrow	RRC CONNECTION RELEASE	disconnection of the main signaling link.
0		COMPLETE	
			The following messages are sent and shall be received
			on cell B.
9	\rightarrow	RRC CONNECTION REQUEST	"Establishment cause": Registration.
10	←	RRC CONNECTION SETUP	5
11	\rightarrow	RRC CONNECTION SETUP	
		COMPLETE	
12	\rightarrow	LOCATION UPDATING	
		REQUEST	
13	÷	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location
			area".
14	$\rightarrow \underline{\leftarrow}$	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
45			disconnection of the main signalling link.
15	<u><u></u></u>		Alter the senaing of the main signalling link
16	22		The SS waite for a possible location undating procedure
10			on both cells A and B for 2 minutes
17	UE		The LIE shall not initiate an RRC connection
	02		establishment on cell A or on cell B within 2 minutes after
			the end of step 15.
18	←	PAGING TYPE 1	"UE identity" = TMSI. This message is sent on cell A and
			on cell B.
			Paging Cause: Terminating Conversational Call.
19	UE		The UE shall not initiate an RRC connection on cell A or
L			on cell B. This is checked during 3 s.
20	UE		A MO CM connection is attempted.
21	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B. This is checked
			during 3 s.
The follo	owing messa	ges are sent and shall be received or	n cell A.
Steps 2	2 to 31 are p	ertormed if the UE supports speech.	
22		DDO CONNECTION DECLIERT	An emergency call is attempted.
23			Establishment cause": Emergency Call.
24			
25			
26	L _		"CM service type": Emergency call establishment
20			Ow service type . Emergency call establishment.
21	$ $ \rightarrow	EMERGENCY SETUP	
20	-	RELEASE COMPLETE	"Cause" = unassigned number
30	$\rightarrow \leftarrow$	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
	· · ·		disconnection of the main signalling link.
31	\rightarrow	RRC CONNECTION RELEASE	
		COMPLETE	

NOTE: The definitions for "Serving cell" and "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

Procedure 3

Step	Direction	Message	Comments				
	UE SS						
The follo	The following messages are sent and shall be received on cell A						
1	SS		The RF level of cell B is lowered until the UE selects cell				
			A. The level of cell B shall be such that cell B is suitable				
			for cell selection.Set the cell type of cell A to the "Serving				
			<u>cell".</u>				
			Set the cell type of cell B to the "Suitable neighbor cell".				
2	->		(<u>NOTE)</u> "Establishment equae": Registration				
2			Establishment cause . Registration.				
4	, →	RRC CONNECTION SETUP					
		COMPLETE					
5	\rightarrow	LOCATION UPDATING					
		REQUEST					
6	÷	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location				
-			area".				
1	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the				
R	→		disconnection of the main signalling link.				
0		COMPLETE					
The follo	wing messag	the section and shall be received or	n cell B.				
9	$ \rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.				
10	÷	RRC CONNECTION SETUP					
11	\rightarrow	RRC CONNECTION SETUP					
10		COMPLETE					
12	\rightarrow						
13	4		"Reject cause" IF is "Roaming not allowed in this location				
15	,	LOCATION OF DATING RESECT	area"				
14	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the				
			disconnection of the main signalling link.				
15	\rightarrow	RRC CONNECTION RELEASE					
		COMPLETE					
16	SS		Change_LAI (A) within 5 s after step 13.				
1 ne tolio	wing messaq حد	Jes are sent and shall be received or	1 Cell A. "Establishment cause": Registration				
18		RRC CONNECTION REQUEST	Establishment cause . Registration.				
19	\rightarrow	RRC CONNECTION SETUP					
		COMPLETE					
20	\rightarrow	LOCATION UPDATING					
		REQUEST					
21	←	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location				
22	<u>→</u> ∠		alea. After the sending of this message, the SS waits for the				
~~~		INTO CONNECTION RELEASE	disconnection of the main signalling link				
23	$\rightarrow$	RRC CONNECTION RELEASE					
		COMPLETE					
24	SS		Change_LAI (B) within 5 s after step 21.				
The follo	wing messag	ges are sent and shall be received or	cell B.				
25	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.				
26							
27	7						
28	<b>→</b>						
20		REQUEST					
29	÷	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location				
			area".				
30	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the				
			disconnection of the main signalling link.				

Step	Direc	ction	Message	Comments		
	UE	SS				
31	-	>	RRC CONNECTION RELEASE			
	_	_	COMPLETE			
32	S	S		Change_LAI (A) within 5 s after step 29.		
The follo	wing n	nessag	ges are sent and shall be received or	n cell A.		
33		<b>&gt;</b>	RRC CONNECTION REQUEST	"Establishment cause": Registration.		
34		-	RRC CONNECTION SETUP			
35		<b>&gt;</b>	RRC CONNECTION SETUP			
00						
36	-	>				
07						
37	•		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location		
20				area.		
38			RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the		
20		2		disconnection of the main signaling link.		
39		/				
40	9	\$	COMFLETE	Change I AI (B) within 5 s after step 37		
	wing n	000000	l res are sent and shall be received or	cell B		
/1	l –	1635a( <del>)</del>		"Establishment cause": Registration		
42	e e e e e e e e e e e e e e e e e e e	<u> </u>	RRC CONNECTION SETUP	Establishment cause . Registration.		
43		<b>&gt;</b>	RRC CONNECTION SETUP			
10			COMPLETE			
44	-	<b>&gt;</b>	LOCATION UPDATING			
			REQUEST			
45	←	<u>.</u>	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location		
-				area".		
46	< €	<u>.</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the		
				disconnection of the main signalling link.		
47	-	∢	RRC CONNECTION RELEASE	с с		
			COMPLETE			
48	S	S		The SS waits for a possible location updating procedure		
				on both cells A and B for 7 minutes.		
49	U	E		The UE shall not initiate an RRC connection		
				establishment on cell A or on cell B within 7 minutes after		
				the end of step 47.		
NOTE:	OTE: The definitions for "Serving cell" and "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference					
	Radio Conditions for signalling test cases only".					

# Procedure 4

Step	Direction		Message	Comments
	UE	SS		
The follo	wing n	nessag	ges are sent and shall be received or	n cell A.
1	S	S		The SS waits for a periodic location updating procedure on cell A for 7 minutes after the initial conditions have been established.
2	-	<b>&gt;</b>	RRC CONNECTION REQUEST	"Establishment cause": Registration.
3		÷	RRC CONNECTION SETUP	
4		>	RRC CONNECTION SETUP	
5	-	<b>&gt;</b>	LOCATION UPDATING REQUEST	Location Updating Type = periodic.
6		÷	LOCATION UPDATING ACCEPT	"Mobile Identity" not IE included.
7	•	<u>,</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	-	<b>&gt;</b>	RRC CONNECTION RELEASE	
9	S	S		The location area identity of cell C shall be changed to that of a location area in the Home PLMN.
10	S	S		The SS waits for a periodic location updating procedure on cell A for 7 minutes.
11	-	>	RRC CONNECTION REQUEST	"Establishment cause": Registration. This message is sent on cell A within 7 minutes after the end of step 8
12		<u>,</u>	RRC CONNECTION SETUP	
13	-	<b>&gt;</b>	RRC CONNECTION SETUP	
			COMPLETE	
14		<b>&gt;</b>	LOCATION UPDATING REQUEST	"Location updating type" = periodic.
15	•	<u>,</u>	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
16	€	<u>,</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
17	-	<b>&gt;</b>	RRC CONNECTION RELEASE	
The follo	wing n	nessag	ges are sent and shall be received or	n cell C.
18	-	>	RRC CONNECTION REQUEST	"Establishment cause": Registration.
19	€	÷	RRC CONNECTION SETUP	
20	-	<b>&gt;</b>	RRC CONNECTION SETUP	
21		<b>&gt;</b>	COMPLETE LOCATION UPDATING	"Location updating type" = periodic.
22		_		"Mobile Identity" not JE included
23	l é	<u>-</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
24		>	RRC CONNECTION RELEASE	disconnection of the main signalling link.

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# Procedure 5

Step	Direction	Message	Comments					
	UE SS							
The follo	The following messages are sent and shall be received on cell A.							
1	SS		The RF level of cell B is lowered until cell B is no longer					
			suitable and the UE selects cell A.Set the cell type of cell					
			A to the "Serving cell".					
			Set the cell type of cell B to the "non-suitable cell".					
			(NOTE)					
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.					
3	↓ ←	RRC CONNECTION SETUP						
4	$\rightarrow$	RRC CONNECTION SETUP						
-								
5	7							
6	4		"Point course" IF is "Pooming not allowed in this location					
0		LOCATION OF DATING REJECT	reject cause TE is Roaming not allowed in this location					
7	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the					
,	,		disconnection of the main signalling link					
8	$\rightarrow$	RRC CONNECTION RELEASE						
_		COMPLETE						
9	SS		The SS waits at least 7 minutes for a possible location					
			updating.					
10	UE		The UE shall not initiate an RRC connection					
			establishment on cell A or on cell B.					
11	UE		The USIM is removed.					
12	UE		The USIM is inserted into the ME.					
13	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.					
14	, ←	RRC CONNECTION SETUP						
15	$\rightarrow$	RRC CONNECTION SETUP						
10			Leastian Undefing Type					
16	7		Location Opdating Type = normal.					
17	L		"Mobile Identity" not IE included					
18	<ul><li></li><li></li></ul>	RRC CONNECTION RELEASE	After the sending of this message the SS waits for the					
			disconnection of the main signalling link.					
19	$\rightarrow$	RRC CONNECTION RELEASE						
		COMPLETE						
NOTE:	The definiti	ons for "Serving cell" and "non-suitab	le cell" are specified in TS 34.108 clause 6.1 "Reference					
Radio Conditions for signalling test cases only".								

# Specific message contents

None.

# 9.4.2.4.5 Test requirement

- 1) 1.1 At step 10 in Procedure 1 the UE shall not perform periodic updating.
  - 1.2 At step 19 in Procedure 2 the UE shall not respond to paging with TMSI.
  - 1.3 At step 21 in procedure 2 the UE shall not initiate an RRC connection establishment.
  - 1.4 After step 13 in Procedure 5 the UE shall perform location updating (at step 16; not perform IMSI detach).
- 2) 2.1 After step 9 in Procedure 2 the UE perform normal location updating (at step 12).
  - 2.2 At step 23 in Procedure 2 the UE shall initiate a RRC CONNECTION REQUEST message with the establishment cause set to "Emergency call";
  - 2.3 After step 14 in Procedure 4 the UE shall attempt to location updating with location updating type "periodic" (at step 21: periodically search for its HPLMN).
- 3) After step 12 in Procedure 5 the UE shall perform location updating (at step 16) when the USIM is removed.

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4) At step 49 in Procedure 3 the UE shall not attempt to begin a location updating procedure.

# 9.4.2.5 Location updating / rejected / No Suitable Cells In Location Area

- 9.4.2.5.1 Definition
- 9.4.2.5.2 Conformance requirement
  - 1) If the network rejects a location updating from the UE with the cause " No Suitable Cells In Location Area " the UE shall:
    - 1.1 perform normal location updating at a suitable cell in another location area in the same PLMN;

1.2 delete the stored CKSN, LAI and TMSI.

### Reference(s)

TS 24.008 clause 4.4.4.7.

## 9.4.2.5.3 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "No Suitable Cells In Location Area".

## 9.4.2.5.4 Method of test

#### Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b and belonging to PLMN1;
  - one cell: C, belonging to PLMN2;
  - IMSI attach/detach is allowed in cells A, B and C;
- User Equipment:
  - the UE has a valid TMSI(= TMSI1) and CKSN(= CKSN1). It is "idle updated" on cell A.

#### Related ICS/IXIT statement(s)

None.

#### **Test Procedure**

The SS rejects a normal location updating with the cause value "No Suitable Cells In Location Area". The RRC CONNECTION is released. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN, and shall perform normal location updating procedure in that cell

Step	Direction	Message	Comments
	UE SS		
The follo	wing messag	ges are sent and shall be received or	n cell B.
1	SS		The RF level of cell A, B and C is enough which the UE
			can select every cells.
			The RF level of cell B is stronger than those of cell A and
			C. Set the cell type of cell B to the "Serving cell".
			Set the cell type of cell A to the "Suitable neighbor cell".
			Set the cell type of cell C to the "Suitable heighbor cell".
2	、 、		(NOTE)
2	7		Establishment cause : Registration.
3		RRC CONNECTION SETUP	
4	7	COMPLETE	
5	<b>د</b>		"location undating type" - normal "CKSN" - CKSN1
5		REQUEST	$    \Delta     - a$ "mobile station classmark 1" as given by the
		REQUEUT	ICS and "Mobile Identity" – TMSI1
6	4	LOCATION LIPDATING REJECT	"Reject cause" – "No Suitable Cells In Location Area"
7	←	BRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
	,		disconnection of the main signalling link.
8	$\rightarrow$	RRC CONNECTION RELEASE	
_		COMPLETE	
The follo	wing messag	ges are sent and shall be received or	n cell A.
9	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.
10	÷	RRC CONNECTION SETUP	
11	$\rightarrow$	RRC CONNECTION SETUP	
10		COMPLETE	
12	$\rightarrow$		"location updating type" = normal, "CKSN" = no key
		REQUEST	available, "LAI" = deleted LAI, "mobile station classmark
10			1" as given by the ICS, "Mobile Identity" = IMSI.
13			"CKSN" = CKSN2
14			
10			
17			Mobile identity – TMSL I $\Lambda$ I – a
18	$\dot{\rightarrow}$	TMSLREALLOCATION	$\frac{1}{1000} = \frac{1}{1000} = 1000, LAI = a.$
10		COMPLETE	
19	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
10	Ì		disconnection of the main signalling link.
20	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
NOTE:	The definitio	ns for "Serving cell" and "Suitable ne	ighbor cell" are specified in TS 34.108 clause 6.1 "Reference
	Radio Condi	tions for signalling test cases only".	·

# Specific message contents

None.

# 9.4.2.5.5 Test requirement

At step 12 the UE shall perform normal location updating with CKSN IE set to "no key available", LAI IE set to "deleted LAI" and Mobile Identity IE set to its IMSI.
# 9.4.3 Location updating / abnormal cases

- 9.4.3.1 Void
- 9.4.3.2 Location updating / abnormal cases / attempt counter less or equal to 4, LAI different
- 9.4.3.2.1 Definition
- 9.4.3.2.2 Conformance requirement
  - When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure, if the attempt counter is smaller than 4 and after expiry of T3211, the UE shall resend its LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating".
  - 2) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the UE shall:

2.1 not answer to paging with the previously allocated TMSI;

- 2.2 not perform the IMSI detach procedure, when switched off.
- 3) When a failure such as case e) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure and when an emergency call establishment is requested by the user the UE, if it supports speech, shall send a CM SERVICE REQUEST message with CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI and after acceptance by the network it shall send an EMERGENCY SETUP message.
- 4) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the UE shall use a request from CM entity other than emergency call as a trigger for a normal location updating procedure and shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating".
- 5) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the UE shall answer to paging with IMSI and shall send a PAGING RESPONSE message with CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI.
- 6) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the UE shall perform a normal location updating procedure as soon as it enters a new cell.

#### References

TS 24.008 clauses 4.4.4.2, 4.4.4.9.

## 9.4.3.2.3 Test purpose

To verify that the UE performs normal location updating procedures when its attempt counter is smaller than 4.

To check that the UE does not perform the IMSI detach procedure when "idle not updated".

To verify that when "idle not updated" the UE can perform an emergency call.

To verify that when "idle not updated" the UE uses requests from CM layer other than emergency call as triggering of a normal location updating procedure.

To verify that the UE performs a normal location updating procedure if it enters a new cell while being "idle not updated".

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#### 9.4.3.2.4 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B of the same PLMN, belonging to different location areas with LAI a and b;
  - ATT flag shall be set to IMSI attach/detach allowed.
- User Equipment:
  - the UE is "idle updated" on cell A. A valid CKSN value is stored in the USIM and is noted "initial CKSN". A TMSI is allocated.

#### Related ICS/IXIT statements

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

#### **Test Procedure**

The UE is made to perform a normal location updating procedure. Five types of failure cases are triggered:

- sending of a Location Updating Reject with cause randomly chosen between all defined cause values except 2, 3, 6, 11, 12 and 13 (which trigger a different action) (case g of TS 24.008 clause 4.4.4.9);
- RRC connection failure (case d);
- sending of a RRC CONNECTION RELEASE message before the normal end of the procedure (case f);
- T3210 time-out (case e);
- RR connection establishment failure (case h).

As there is no stored LAI or the stored LAI is different from the broadcast LAI, and the attempt counter in the UE shall be lower than 4, the UE enters the state MM IDLE and substate ATTEMPTING TO UPDATE and waits for T3211 seconds before trying again a location updating procedure.

Then the behaviour of the UE in the MM IDLE state and ATTEMPTING TO UPDATE substate is checked, that is:

- not answer to paging with TMSI;
- not perform an IMSI detach procedure;
- support request for emergency call;
- use requests from CM layer other than emergency call as triggering of a normal location updating procedure;
- perform normal location updating procedure when a new cell is entered.

Expected sequence

Step	Direction	Message	Comments
	UE SS	1	
The follo	wing messa	ges are sent and shall be received or	n cell B.
1	SS		The RF level of cell A is lowered until the UE selects cell
			B. The RF level of cell A is set sufficiently low to ensure
			"Serving cell".
			Set the cell type of cell A to the "non-suitable cell".
	、		(NOTE)
2	→ ←	RRC CONNECTION REQUEST	Establishment cause: Registration.
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$		location updating type = normal, CKSN = initial value, LAI
		REQUEUT	mobile identity = TMSI.
6	$\leftarrow$	LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of TS
			24.008, causes #2, #3, #6, #11, #12, #13 and #15 being
7	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
	•		disconnection of the main signalling link.
8	$\rightarrow$	RRC CONNECTION RELEASE	
9	UE	COMPLETE	The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during T3211
0	د		seconds at least after the RRC connection is released.
9	$\leftarrow$	RRC CONNECTION SETUP	Establishment cause. Registration.
12	$\rightarrow$	RRC CONNECTION SETUP	
10	``		leasting undating type, named CKCN, no key
13	7	REQUEST	available. LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
14	22		= IMSI. The SS modifies the ecromoling ends of DL DDCH for
14	55		generating lower layer failure.
15		(void)	
15a 15b	$\rightarrow$	CELL UPDATE	
15c	ŝs		The SS re-modifies the scrambling code of DL DPCH to
			the original one.
15d	UE		The UE shall not initiate an RRC connection
			seconds at least after the RRC connection is released.
16	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
17	$\leftarrow$		
10	/	COMPLETE	
19	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUESI	available, LAI = deleted LAI (the MCC and MNC hold the
			= IMSI.
20	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
21	$\rightarrow$	RRC CONNECTION RELEASE	disconnection of the main signalling link.
	-	COMPLETE	
22	UE		The UE shall not initiate an RRC connection
			seconds at least after the RRC connection is released
23	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
24	÷	RRC CONNECTION SETUP	
25	$\rightarrow$	COMPLETE	
1	l i i i i i i i i i i i i i i i i i i i		1

Step	Direction	Message	Comments
.	UE SS		
26	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI
27	÷	AUTHENTICATION REQUEST	CKSN = initial CKSN.
28	$\rightarrow$	AUTHENTICATION RESPONSE	
28a	<del>(</del>	SECURITY MODE COMMAND	
28b	$\rightarrow$	SECURITY MODE COMPLETE	IF weaking the second TMO
29 30	$\rightarrow$	TMSI REALLOCATION	IE mobile identity = new 1MSI.
31	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell B.
32	$\rightarrow$	RRC CONNECTION RELEASE	
The follo	wing messa	ges are sent and shall be received or	n cell A.
33	SS		The RF level of cell B is lowered until the UE selects cell
			A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable.Set the cell type of cell A to the
			<u>"Serving cell".</u> Set the cell type of cell B to the "non-suitable cell".
			(NOTE)
34	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
35	$\leftarrow$	RRC CONNECTION SETUP	
30	7	COMPLETE	
37	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = initial value, LAI
		REQUEST	= b, mobile station classmark 1 as given by the ICS and
			mobile identity = TMSI.
38	SS		performs step 6 with reject cause #100 and step 7.
388	UE 4	PAGING TYPE 1	performs steps.
00	,		This message is sent continuously to the UE during 8 s.
40	SS		Paging Cause: Terminating Conversational Call. The SS checks that there is no answer from the UE
44			during 12 s.
41	33		location updating procedure the SS will perform step 38 and then continue the procedure
42	UE		If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) mobile switch off is
43	UE		performed. Otherwise the power is removed. The UE shall not initiate an RRC connection
44	UE		establishment on cell A or on cell B during 30 s. Depending on what has been performed in step 42 the
45	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
46	-	RRC CONNECTION SETUP	
47	$\rightarrow$	RRC CONNECTION SETUP	
48	→	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
49 50			UKSIN = INITIAI UKSIN.
50a	$\leftarrow$	SECURITY MODE COMMAND	
50b	) →	SECURITY MODE COMPLETE	
51	←	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
52	$\rightarrow$	TMSI REALLOCATION	
52	<u> </u>		After the sending of this message, the SS waits for the
00		INTO CONNECTION RELEASE	disconnection of the main signalling link. UE is now "idle updated" in cell A.

Step	Direction	Message	Comments	
	UE SS			
54	$\rightarrow$	RRC CONNECTION RELEASE COMPLETE		
The follo	wing messa	ges are sent and shall be received or	n cell B.	
55	SS		The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable.Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell".	
56	<u>د</u>		(NOTE) Establishment cause: Registration	
57	, ←	RRC CONNECTION SETUP		
58	$\rightarrow$	RRC CONNECTION SETUP COMPLETE		
59	$\rightarrow$	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.	
60	<	AUTHENTICATION REQUEST		
61	7	AUTHENTICATION RESPONSE	Steps 60 and 61 are performed N times. N shall be chosen in such a way that T3210 expires	
62	UE		The UE shall cease transmission and then shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the expiry of T3210	
63	UE		If the UE supports speech it is made to perform an emergency call.	
64	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Emergency call.	
65	<del>(</del>	RRC CONNECTION SETUP		
66	$\rightarrow$	RRC CONNECTION SETUP		
67	$\rightarrow$	COMPLETE CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.	
68	÷	CM SERVICE ACCEPT		
69	$\rightarrow$	EMERGENCY SETUP		
70	É L		Cause = unassigned number.	
71	$\rightarrow$	RRC CONNECTION RELEASE RRC CONNECTION RELEASE		
72a	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC connection is released.	
73	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.	
74 75	$\stackrel{\leftarrow}{\rightarrow}$	RRC CONNECTION SETUP RRC CONNECTION SETUP		
76	÷	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.	
77	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.	
78	$\rightarrow$	AUTHENTICATION RESPONSE		
78a	←	SECURITY MODE COMMAND		
78b	$\rightarrow$	SECURITY MODE COMPLETE		
79	l ←	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.	
80	→			
81	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell B.	
82	$\rightarrow$	RRC CONNECTION RELEASE		
The following messages are sent and shall be received on cell A.				

UE         SS           83         SS           83         SS           84         →         RC CONNECTION REQUEST           85         ←         RRC CONNECTION SETUP           86         →         RCC CONNECTION SETUP           87         →         LOCATION UPDATING REQUEST           88         SS         (void)           88         →         CELL UPDATE           88         SS         (void)           90         →         RRC CONNECTION RELEASE           89         UE         RRC CONNECTION REQUEST           84         →         CELL UPDATE           85          RRC CONNECTION RELEASE           84         SS         (void)           85          RRC CONNECTION RELEASE           89         UE         RRC CONNECTION RELEASE           90         →         RRC CONNECTION RELEASE           91         +         LOCATION UPDATING REQUEST           93         →         LOCATION UPDATING REQUEST           94         +         LOCATION UPDATING REQUEST           95         →         RRC CONNECTION RELEASE           97         →         RRC	Step	Direction	Message	Comments
83       SS       The RF level dealt 3 is invested with the UE solution of the construction of the construction.         84       →       RRC CONNECTION REQUEST       Set the cell type of cell B to the "mon-suitable cell", the cell construction of the construction.         85       ←       RRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         86       →       RCC CONNECTION RELEASE       Iocation updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.         88       SS       (void)       CCCH       CCCH         88       C       RRC CONNECTION RELEASE       CCCH         89       UE       RRC CONNECTION REPUPER       Establishment cause: Registration.         91       ←       RRC CONNECTION REPUPER       Establishment cause: Registration.         93       →       LOCATION UPDATING REQUEST       Coother critic Strup         94       ←       LOCATION UPDATING RECEPT       TMSI REALLOCATION         95       →       RRC CONNECTION RELEASE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE <td< th=""><th></th><th>UE SS</th><th></th><th></th></td<>		UE SS		
A.The RF level of cell B is not subled. Sait the cell type of cell A to the "Serving cell."         84       →       RRC CONNECTION REQUEST RECONNECTION SETUP COMPLETE       Satthe cell type of cell B to the "non-suitable cell". (NOTE)         87       →       LOCATION UPDATING REQUEST       Establishment cause: Registration.         88       SS       (void)       location updating type = normal, CKSN = initial value, LAI = b, mobile identity = TMSI.         88       SS       (void)       cccch       cccch         89       →       CELL UPDATE CCCH       CCCH.       cccch         80       →       RC CONNECTION RELEASE COMPLETE       CCCH.       cccch.         91       ←       RC CONNECTION SETUP COMPLETE       CCCH.       cccch.         93       →       COCATION UPDATING REQUEST       cccch.       cccch.         94       ←       LOCATION UPDATING REQUEST       ccoch we connection setup to a stempted before T3211 expiry.         95       →       TMSI REALLOCATION COMPLETE       coch we connection is attempted before T3211 expiry.         95       →       RC CONNECTION RELEASE COMPLETE       the oblic identity = new TMSI.         96       ←       RRC CONNECTION RELEASE COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the requesti for CM connection attempt.         9	83	SS		The RF level of cell B is lowered until the UE selects cell
84       →       RRC CONNECTION REQUEST       Set the cell type of cell B to the "non-suitable cell".         84       →       RRC CONNECTION REQUEST       Establishment cause: Registration.         85       ←       RRC CONNECTION SETUP       Establishment cause: Registration.         86       →       RRC CONNECTION SETUP       Establishment cause: Registration.         87       →       LOCATION UPDATING       Iocation updating type = normal, CKSN = initial value, LAI         88       SS       (void)       CCCH.         88       SS       (void)       CCCH.         88       SS       (void)       CCCH.         88       SS       (void)       CCCH.         89       →       CELL UPDATE       CCCH.         80       SS       (void)       CCCH.         91       →       RRC CONNECTION REQUEST       A MO CM connection is attempted before T3211 expiry.         92       →       RRC CONNECTION REPUP       CoMPLETE       COMPLETE         93       →       LOCATION UPDATING REQUEST       Noobie Identity = new TMSI.       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         94       ←       LOCATION UPDATING RECETION RELEASE       COMPLETE       Steps 98 to 103 are				A. The RF level of cell B is set sufficiently low to ensure
B4       →       RRC CONNECTION REDUEST         B4       →       RRC CONNECTION SETUP RC CONNECTION SETUP COMPLETE       Initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.         B8       S3       CELL UPDATING REQUEST       Initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.         B8       →       CELL UPDATING REQUEST       CCCH.         B8       →       CELL UPDATING REQUEST       CCCH.         B9       ↓       RRC CONNECTION RELEASE REQUEST       CCCH.         B9       ↓       RRC CONNECTION SETUP COMPLETE       CCCH.         B9       ↓       RRC CONNECTION SETUP COMPLETE       CCCH.         B9       ↓       LOCATION UPDATING REQUEST       Indexing type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE). Mobile Identity = IMSI.         B9       ↓       CONFLETE       Indexing type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE). Mobile Identity = IMSI.         B9       ↓       CONFLETE       Indexing type = normal, CKSN = no key available, IAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).         B101       ↓       CONFLETE       COMPLETE         B102       ↓       RRC CONNECT				that cell B is not suitable. Set the cell type of cell A to the
84       →       RRC CONNECTION REQUEST         87       →       LOCATION UPDATING         88       SS       (vid)         88       SS       (vid)         88       SS       (vid)         88       SS       (vid)         88       CCUNECTION RELASE       biobic identity         88       SS       (vid)         88       CCUNECTION RELASE       CCCH         88       →       CELL UPDATE         88       SS       RC CONNECTION RELASE         89       UE       RRC CONNECTION REQUEST         91       ←       RRC CONNECTION SETUP         92       →       RRC CONNECTION SETUP         93       →       LOCATION UPDATING         84       ←       REQUEST         95       →       TMSI REALLOCATION RELASE         96       ←       RRC CONNECTION RELASE         97       →       RRC CONNECTION RELASE         98       →       RRC CONNECTION RELASE         97       →       RRC CONNECTION RELEASE         98       →       RRC CONNECTION RELASE         97       →       RRC CONNECTION RELEASE         98				Set the cell type of cell B to the "non-suitable cell"
84       →       RRC CONNECTION REQUEST       Establishment cause: Registration.         85       ←       RRC CONNECTION SETUP COMPLETE       Iocation updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.         88       SX       cell UPDATE       CCH.         88       →       CELL UPDATE       CCH.         88       →       CELL UPDATE       CCH.         90       →       RRC CONNECTION RELEASE       AMO CM connection is attempted before T3211 expiry.         91       +       RRC CONNECTION SETUP       CCH.         92       +       RRC CONNECTION SETUP       CCH.         93       +       LOCATION UPDATING RCOUNECTION SETUP       COMPLETE         93       +       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MMC hold the previous values, the LAC is coded FFE). Mobile Identity         94       €       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MMC hold the previous values, the LAC is coded FFE). Mobile Identity         94       €       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MMC hold the previous values, the LAC is coded FFE). Mobile Identity         94<				(NOTE)
85       ←       RRC CONNECTION SETUP COMPLETE         87       →       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.         88       SS       (vici)       CCCH.         88       SS       (vici)       CCCH.         88       CELL UPDATE       CCCH.         88       CCONNECTION RELEASE       CCCH.         89       UE       PRC CONNECTION RELEASE       CCCH.         90       →       RRC CONNECTION SETUP       CCCH.         91       ←       RRC CONNECTION SETUP       CCCH.         92       →       RRC CONNECTION SETUP       CCCH.         93       →       LOCATION UPDATING ACCEPT       Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values. LAI = deleted LAI (the MCC and MNC hold the previous values. LAI = deleted LAI (the MCC and MNC hold the previous values. Not Checked.         97       →       RRC CONNECTION RELEASE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         98       →       RRC CONNECTION RELEASE       Wait 10 s to decide whether to go directly to step 104.         98       →       RRC CONNECTION RELEASE       CMPLETE       CMSN = no key avail	84	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
86       →       RRC CONNECTION SETUP COMPLETE         87       →       LOCATION UPDATING REQUEST         88       SS         88       >         88       >         88       >         89       UE         90       >         91       ←         92       >         93       →         91       ←         92       >         93       →         94       ←         95       +         96       ←         97       →         98       →         97       →         98       →         97       →         98       →         97       →         98       →         97       →         98       →         97       →         98       →         97       →         98       +         97       →         98       +         97       →         98       +         99       +	85	÷	RRC CONNECTION SETUP	
87       →       LOCATION UPDATING REQUEST       location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.         88       SS       (void)         88       CELL UPDATE RECONNECTION RELEASE       CCCH. CCCH.         89       UE P       RRC CONNECTION RELEASE       CCCH.         90       →       RRC CONNECTION SETUP COMPLETE       CCCH.         91       ←       RRC CONNECTION SETUP COMPLETE       Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile identity = MSI.         93       →       LOCATION UPDATING REQUEST       Location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile identity = MSI.         94       ←       LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE COMPLETE       Wait 10 s to decide whether to go directly to step 104.         98       +       RRC CONNECTION RELEASE COMPLETE       CKSN = no key available, Mobile identity = TMSI.         101       →       CMS EVICE REQUEST       CKSN = no key available, Mobile identity = TMSI.         102       ←       RRC CONN	86	$\rightarrow$	RRC CONNECTION SETUP	
87       →       LOCATION OPATING       The Count opage in the value, but in th	07	د ا		location undefine type - normal CKSN - initial value 1 AL
Name	07	~	REQUEST	-b mobile station classmark 1 as given by the ICS and
88 88a 88b 88b 88c 88c 88c 88c 88c 88c 88c 90CELL UPDATE CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. Establishment cause: Registration.91€ 92PRC CONNECTION REQUEST REQUESTIocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.93→ LOCATION UPDATING REQUESTIocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.94€ LOCATION UPDATING ACCEPT TMSI REALOCATION COMPLETEIocation updating type = normal, CKSN = no key available, Identity = new TMSI.96 97a\$ RRC CONNECTION RELEASE COMPLETESteps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.101 102 103 103 103 103 104> RRC CONNECTION RELEASE COMPLETECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 104 105 106 107 108 109 108 109 109 108 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 109 <br< td=""><td></td><td></td><td></td><td>mobile identity = TMSI.</td></br<>				mobile identity = TMSI.
88a 88b       →       CELL UPDATE RRC CONNECTION RELEASE       CCCH.         88b       →       CELL UPDATE RRC CONNECTION REQUEST       CCCH.         90       →       RRC CONNECTION SETUP COMPLETE       CCMH         91       ←       RRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         93       →       LOCATION UPDATING REQUEST       Iccation updating type = normal, CKSN = no key available, LA1 = deleted LA1 (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity         94       ←       LOCATION UPDATING ACCEPT         95       →       RRC CONNECTION RELEASE COMPLETE         96       ←       RRC CONNECTION RELEASE COMPLETE         97       →       RRC CONNECTION RELEASE COMPLETE         98       →       RRC CONNECTION REQUEST         100       →       RRC CONNECTION RELEASE         97       →       RRC CONNECTION RELEASE         98       →       RRC CONNECTION RELEASE         101       →       CM SERVICE REQUEST         102       ←       RRC CONNECTION RELEASE         103       →       RRC CONNECTION RELEASE         104       SS       -         105       →       RRC CONNECTION RELEASE	88	SS		performs step 14.
88b       →       CELL UPDATE       CCCH.         88c       ←       RRC CONNECTION RELEASE       CCCH.         90       →       RRC CONNECTION RELEASE       AM CM connection is attempted before T3211 expiry.         91       ←       RRC CONNECTION SETUP       AM CM connection is attempted before T3211 expiry.         92       →       RRC CONNECTION SETUP       Establishment cause: Registration.         93       →       LOCATION UPDATING       Ication updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.         94       ←       LOCATION UPDATING ACCEPT       Imbodil dentity = new TMSI.         95       →       TMSI REALLOCATION       EcompLetre         96       ←       RRC CONNECTION RELEASE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION REDUEST       Wait 10 s to decide whether to go directly to step 104.         103       →       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         104       SS        The RF level of cell A is lowered until the UE selecte cell at is ont cinficiently low to ensure that cell A is ont cinficiently low to ensure that cell A is ont cinficiently low to ensure that cell A is onto sinficiently low to ensure that cell at	88a		(void)	
88d       CCH.       performs step 15c.         88d       SS       AM OCM connection is attempted before T3211 expiry.         90       →       RRC CONNECTION SETUP         91       ←       RRC CONNECTION SETUP         92       →       RRC CONNECTION SETUP         93       →       LOCATION UPDATING         93       →       LOCATION UPDATING ACCEPT         94       ←       LOCATION UPDATING ACCEPT         95       →       TMSI REALLOCATION         96       ←       RRC CONNECTION RELEASE         97       →       RRC CONNECTION REQUEST         98       →       RRC CONNECTION REQUEST         100       →       RRC CONNECTION SETUP         101       →       CMMPLETE         102       ←       RRC CONNECTION RELEASE         103       →       RRC CONNECTION RELEASE         104       SS       RRC CONNECTION RELEASE         105       →       RRC CONNECTION RELEASE         106       ←       RRC CONNECTION RELEASE <td>88b</td> <td>$\rightarrow$</td> <td>CELL UPDATE</td> <td>CCCH.</td>	88b	$\rightarrow$	CELL UPDATE	CCCH.
B8       UE       A MO CM connection is attempted before T3211 expiry.         90       →       RRC CONNECTION REQUEST         91       ←       RRC CONNECTION SETUP         92       →       RRC CONNECTION SETUP         93       →       LOCATION UPDATING         94       ←       LOCATION UPDATING ACCEPT         95       →       TMSI REALLOCATION         96       ←       RRC CONNECTION RELEASE         97       →       RRC CONNECTION RELEASE         97       →       RRC CONNECTION RELEASE         97       →       RRC CONNECTION RELEASE         974       ←       RC CONNECTION RELEASE         975       →       RRC CONNECTION RELEASE         976       ←       RRC CONNECTION RELEASE         977       →       RRC CONNECTION RELEASE         978       ←       RRC CONNECTION SETUP         100       →       RRC CONNECTION SETUP         101       →       CM SERVICE REQUEST         102       ←       RRC CONNECTION RELEASE         103       →       RRC CONNECTION RELEASE         104       SS          105       →       RRC CONNECTION RELEASE	288 00 d	÷	RRC CONNECTION RELEASE	CCCH.
303031Arc CONNECTION REQUEST RC CONNECTION SETUP RC CONNECTION SETUP COMPLETEStablishment cause: Registration.914Convertion Setup 	80	55 LIE		A MO CM connection is attempted before T3211 expiry
91 $\leftarrow$ RC CONNECTION SETUP COMPLETE93 $\rightarrow$ LOCATION UPDATING REQUEST93 $\rightarrow$ LOCATION UPDATING REQUEST94 $\leftarrow$ LOCATION UPDATING ACCEPT 	90	→	RRC CONNECTION REQUEST	Establishment cause: Registration.
92       →       RRC CONNECTION SETUP COMPLETE         93       →       LOCATION UPDATING REQUEST       location updating type = normal, CKSN = no key available, LA1 = deleted LA1 (the MCC and MNC hold the previous values, the LAC is coded FFFE). Mobile Identity = IMSI.         94       ←       LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETE       Is to be identity = new TMSI.         95       →       TMSI REALLOCATION COMPLETE       Is to be identity = new TMSI.         96       ←       RRC CONNECTION RELEASE COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION REQUEST 99       KRC CONNECTION SETUP COMPLETE       Wait 10 s to decide whether to go directly to step 104.         101       →       CM SERVICE REQUEST 102       CM SERVICE REQUEST COMPLETE       CKSN = no key available, Mobile identity = TMSI.         103       →       RRC CONNECTION RELEASE COMPLETE       CKSN = no key available. Mobile identity = to snow "idle updated" in cell A.         104       SS       =       The RELease COMPLETE       The RE-leavel of cell A is lowered until the UE selects cell B, The RE-leavel of cell A is estudificiently low to ensure that cell A up of cell A to the "non-suitable cell". (NOTE)         105       →       RRC CONNECTION REQUEST 106       FRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         108       <	91	÷	RRC CONNECTION SETUP	
93 $\rightarrow$ ICCATION UPDATING REQUEST REQUEST 95Iocation updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.94 $\leftarrow$ LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETEIE mobile Identity = new TMSI.96 $\leftarrow$ RRC CONNECTION RELEASE COMPLETESteps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.97 $\rightarrow$ RRC CONNECTION RELEASE COMPLETEWait 10 s to decide whether to go directly to step 104.98 $\rightarrow$ RRC CONNECTION REQUEST COMPLETEWait 10 s to decide whether to go directly to step 104.101 $\rightarrow$ CM SERVICE REQUEST COMPLETECKSN = no key available, Mobile identity = TMSI.102 $\leftarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.103 $\rightarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.104SRRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.104SRRC CONNECTION REQUEST RECOMPLETEThe RF-level of cell A is lowered until the UE selects cell B. The RF-level of cell A is cot sulfable. Set the cell type of cell B to the "Set the cell type of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION REQUEST REQUESTEtablishment cause: Registration.106 $\leftarrow$ RRC CONNECTION REQUEST REQUESTEtablishment cause: Registration.108 $\rightarrow$ LOCATION UPDATING REQUESTEtablishment cause: Registration.109 <t< td=""><td>92</td><td>$\rightarrow$</td><td>RRC CONNECTION SETUP</td><td></td></t<>	92	$\rightarrow$	RRC CONNECTION SETUP	
93       →       LOCATION UPDATING       Incation updating type = normal, CKSN = no key         94       ←       LOCATION UPDATING ACCEPT       Incation updating type = normal, CKSN = no key         94       ←       LOCATION UPDATING ACCEPT       Immodel and the term of term of term of term of the term of term o			COMPLETE	
Activity       Activity <t< td=""><td>93</td><td>$\rightarrow$</td><td></td><td>location updating type = normal, CKSN = no key</td></t<>	93	$\rightarrow$		location updating type = normal, CKSN = no key
94       ←       LOCATION UPDATING ACCEPT         95       →       TMSI REALLOCATION COMPLETE         96       ←       RRC CONNECTION RELEASE COMPLETE         97       →       RRC CONNECTION RELEASE COMPLETE         97       →       RRC CONNECTION RELEASE COMPLETE         98       →       RRC CONNECTION SETUP COMPLETE         100       →       RRC CONNECTION SETUP COMPLETE         101       →       CM SERVICE REQUEST RRC CONNECTION RELEASE         102       ←       RRC CONNECTION RELEASE COMPLETE         103       →       RRC CONNECTION RELEASE COMPLETE         104       SS       RRC CONNECTION RELEASE COMPLETE         105       →       RRC CONNECTION RELEASE COMPLETE         104       SS       The FIevol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF levol of cell A is lowered until the UE selects cell B. The RF lev			REQUEST	previous values the LAC is coded EEEE) Mobile Identity
94       ←       LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETE       IE mobile Identity = new TMSI.         96       ←       RRC CONNECTION RELEASE COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE COMPLETE       Wait 10 s to decide whether to go directly to step 104.         98       →       RRC CONNECTION SETUP COMPLETE       Wait 10 s to decide whether to go directly to step 104.         100       →       RRC CONNECTION RELEASE RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         101       →       CM SERVICE REQUEST RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         103       →       RRC CONNECTION RELEASE COMPLETE       The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is cot sufficiently low to ensure that cell A is not suitable. Set the cell type of cell B to the "Serving cell".         105       →       RRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         106       ←       RRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.				
95 $\rightarrow$ TMSI REALLOCATION COMPLETE96 $\leftarrow$ RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETESteps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.97 $\rightarrow$ RRC CONNECTION RELEASE COMPLETEWait 10 s to decide whether to go directly to step 104.98 $\rightarrow$ RRC CONNECTION SETUP COMPLETESteps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.100 $\rightarrow$ RRC CONNECTION SETUP COMPLETECKSN = no key available, Mobile identity = TMSI.101 $\rightarrow$ CM SERVICE REQUEST RRC CONNECTION RELEASE COMPLETECKSN = no key available, Mobile identity = TMSI.103 $\rightarrow$ RRC CONNECTION RELEASE COMPLETECKSN = no key available, Mobile identity = TMSI.104SSRRC CONNECTION RELEASE COMPLETEThe RF level of cell A is lowered until the UE selects cell updated" in cell A.104SSThe RF level of cell A is cell sufficiently low to ensure that cell A is not suitable.Set the cell type of cell B to the "Serving cell".105 $\rightarrow$ RRC CONNECTION REQUEST COMPLETEThe RF level of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION SETUP COMPLETEEstablishment cause: Registration.105 $\rightarrow$ RRC CONNECTION SETUP COMPLETEIocation updating type = normal, CKSN = no key available LAI = a, mobile identity = TMSI. performs step 14.109SS(void)CCCH. CCCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. <td>94</td> <td>÷</td> <td>LOCATION UPDATING ACCEPT</td> <td>IE mobile Identity = new TMSI.</td>	94	÷	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
96       ←       RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE COMPLETE       Wait 10 s to decide whether to go directly to step 104.         98       →       RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE       Wait 10 s to decide whether to go directly to step 104.         101       →       RRC CONNECTION SETUP COMPLETE       CKSN = no key available, Mobile identity = TMSI.         102       ←       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         103       →       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         103       →       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         104       SS       The following messages are sent and shall be received on cell B.       The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is not suitable cell", (NOTE)       Set the cell type of cell B to the "Serving cell".         105       →       RRC CONNECTION REQUEST       The cell type of cell A to the "non-suitable cell", (NOTE)         105       →       RRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         106       ←       RRC CONNECTION SETUP COMPLETE       Iocation updating type = normal, CKSN = no key av	95	$\rightarrow$	TMSI REALLOCATION	
96       ←       RRC CONNECTION RELEASE       Steps 98 to 103 are optional as the UE may have memorized the request for CM connection attempt.         97       →       RRC CONNECTION RELEASE COMPLETE       Wait 10 s to decide whether to go directly to step 104.         97       →       RRC CONNECTION REQUEST       Wait 10 s to decide whether to go directly to step 104.         98       →       RRC CONNECTION SETUP COMPLETE       CM SERVICE REQUEST         101       →       CM SERVICE REQUEST       CKSN = no key available, Mobile identity = TMSI.         102       ←       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         103       →       RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI.         104       SS       RRC CONNECTION RELEASE       CKSN = no key available, Set the cell type of cell A.         104       SS       RRC CONNECTION REQUEST       The RF level of cell A is lowered until the UE selects cell B.         105       →       RRC CONNECTION SETUP       Set the cell type of cell A to the "non-suitable cell".         105       →       RRC CONNECTION SETUP       Set the cell type of cell A to the "non-suitable cell".         106       ←       RRC CONNECTION SETUP       Set the cell type of cell A to the "non-suitable cell".         109       SS       (void)		,	COMPLETE	
97 $\rightarrow$ COMPLETERRC CONNECTION RELEASE COMPLETEMethol Zed the request for Connection altering.97 $\rightarrow$ SSRRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETEWait 10 s to decide whether to go directly to step 104. Establishment cause: Not checked.101 $\rightarrow$ COMPLETERRC CONNECTION SETUP COMPLETECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 $\rightarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 $\rightarrow$ RRC CONNECTION RELEASEThe RE level of cell A is lowered until the UE selects cell updated" in cell A.104SSThe RE level of cell A is lowered until the UE selects cell "Serving cell".105 $\rightarrow$ RRC CONNECTION REQUEST (NOTE)The RE level of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION SETUP COMPLETEEstablishment cause: Registration.106 $\leftarrow$ RRC CONNECTION SETUP COMPLETEIocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.109SS (void)CCCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH. CCH.	96	←	RRC CONNECTION RELEASE	Steps 98 to 103 are optional as the UE may have
0.1       COMPLETE         97a       SS         98       →         99       →         100       →         100       →         101       →         102       ←         103       →         102       ←         103       →         104       →         103       →         104       →         105       →         104       SS         105       →         106       ←         107       →         108       →         109       SS         109       SS         109       SS         109       →         109       SS         109       SS         109       SS         109       SS         109       →         109       SS         109       S         109       S         109       S         109       S         109       S         1094       CELL UPDATE         1095 <td>97</td> <td>$\rightarrow$</td> <td>RRC CONNECTION RELEASE</td> <td>memorized the request for Civi connection attempt.</td>	97	$\rightarrow$	RRC CONNECTION RELEASE	memorized the request for Civi connection attempt.
97aSS 98RRC CONNECTION REQUEST RC CONNECTION SETUP COMPLETEWait 10 s to decide whether to go directly to step 104. Establishment cause: Not checked.100 $\rightarrow$ RRC CONNECTION SETUP COMPLETECM SERVICE REQUEST RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 $\rightarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 $\rightarrow$ RRC CONNECTION RELEASEThe RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is cot sufficiently low to ensure that cell A is not suitable. Set the cell type of cell B to the "Set the cell type of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION REQUEST RC CONNECTION SETUP COMPLETEEstablishment cause: Registration.106 $\leftarrow$ RRC CONNECTION SETUP COMPLETEEstablishment cause: Registration.108 $\rightarrow$ LOCATION UPDATING REQUESTLocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.109SS(void) CCCH. CCCH. CCCH. DigodCCCH. CCCH. CCCH. CCCH.109 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASECCCH. CCCH. CCCH. CCCH.			COMPLETE	
98 99 99 (+) $\rightarrow$ RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETEEstablishment cause: Not checked.100 100 101 $\rightarrow$ RRC CONNECTION SETUP COMPLETEEstablishment cause: Not checked.101 102 102 $\rightarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 103 104 $\rightarrow$ RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.103 104 $\rightarrow$ RRC CONNECTION RELEASEThe RE level of cell A is lowered until the UE selects cell The RF level of cell A is not suitable.Set the cell type of cell B to the "Serving cell", Set the cell type of cell A to the "non-suitable cell". (NOTE)105 106 107 107 $\rightarrow$ RRC CONNECTION REQUEST RCC CONNECTION SETUP COMPLETE108 109 109 109 109 109 $\rightarrow$ CELL UPDATE (void) (void)109 109 109 109 109 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE109 109 109 109 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE109 109 109 109 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE109 109 109 109 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE109 1094 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE109 1094 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE1094 1095 $\rightarrow$ CELL UPDATE RC CONNECTION RELEASE </td <td>97a</td> <td>SS</td> <td></td> <td>Wait 10 s to decide whether to go directly to step 104.</td>	97a	SS		Wait 10 s to decide whether to go directly to step 104.
99 100←RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETECKSN = no key available, Mobile identity = TMSI.101→CM SERVICE REQUEST RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.102←RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.103→RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.103→RRC CONNECTION RELEASECKSN = no key available, Mobile identity = TMSI.104SSThe RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A to the "non-suitable cell". (NOTE)105→RRC CONNECTION REQUEST COMPLETESet the cell type of cell A to the "non-suitable cell". (NOTE)105→RRC CONNECTION SETUP COMPLETESet the cell type of cell A to the "non-suitable cell". (NOTE)108→LOCATION UPDATING REQUESTIocation updating type = normal, CKSN = no key available LAI = a, mobile identity = TMSI. performs step 14.109SS(void)CCCH. CCCH. CCCH. CCCH.109dSCELL UPDATE RRC CONNECTION RELEASECCCH. CCCH. CCCH.109dSSNew second and shall be received on cell A	98	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Not checked.
100       →       RRC CONNECTION SETUP COMPLETE         101       →       CM SERVICE REQUEST RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       CKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable. Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)         105       →       RRC CONNECTION REQUEST 106       FRC CONNECTION SETUP COMPLETE       Establishment cause: Registration.         108       →       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.         109       SS       (void)       CCCH. CCCH. performs step 15c.         109d       SS       CCCH.       CCCH. CCCH.	99	←	RRC CONNECTION SETUP	
101       →       CM SERVICE REQUEST RRC CONNECTION RELEASE       CKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       CKSN = no key available, Mobile identity = TMSI. After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is not suitable.Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)         105       →       RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETE       Set the cell type of cell A to the "non-suitable cell". (NOTE)         108       →       LOCATION UPDATING REQUEST       Iocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.         109       SS       (void)       CCCH. CCCH. CCCH. CCCH.       CCCH. CCCH. CCCH.         109d       SS       The or cell A       CCCH. CCCH.	100	7	COMPLETE	
102       ←       RRC CONNECTION RELEASE       After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.         103       →       RRC CONNECTION RELEASE COMPLETE       The following messages are sent and shall be received on cell B.         104       SS       The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is not suitable.Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)         105       →       RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETE       Set the cell type of cell A to the "non-suitable cell". (NOTE)         108       →       LOCATION UPDATING REQUEST (void)       Iocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.         109       SS       (void)       CCCH. CCC	101	$\rightarrow$	CM SERVICE REQUEST	CKSN = no key available, Mobile identity = TMSI.
103→RRC CONNECTION RELEASE COMPLETEdisconnection of the main signalling link. UE is now "idle updated" in cell A.103→RRC CONNECTION RELEASE COMPLETEImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.104SSImage: constraint of the main signalling link. UE is now "idle updated" in cell A.105→RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETE106←RRC CONNECTION SETUP COMPLETE108→LOCATION UPDATING REQUEST109SS(void)109SS(void)109SS(void)109SS(void)109SSCELL UPDATE RRC CONNECTION RELEASE109SSCELL UPDATE RC CONNECTION RELEASE109SSCCCH. CCCH. CCCH. performs step 15c.109SSImage: constraint of the mean step 15c.	102	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
103 $\rightarrow$ RRC CONNECTION RELEASEupdated" in cell A.103 $\rightarrow$ RRC CONNECTION RELEASEImage: the cell of cell A is lowered until the UE selects cell B.104SSThe RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable. Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETESet the cell type of cell A to the "non-suitable cell". (NOTE)108 $\rightarrow$ LOCATION UPDATING REQUESTIocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.109SS(void) CCCH. CCCH. CCCH. CCCH. CCCH. CCCH. CCCH. CCCH.109SSCELL UPDATE RRC CONNECTION RELEASE109SSCCCH. CCCH. CCCH. CCCH. CCCH.109SSImage: step 15c.109SSImage: step 15c.				disconnection of the main signalling link. UE is now "idle
103 $\rightarrow$ RRC CONNECTION RELEASE COMPLETEThe following messages are sent and shall be received on cell B.104SS104SS104SS105 $\rightarrow$ 105 $\rightarrow$ 106 $\leftarrow$ RRC CONNECTION REQUEST106 $\leftarrow$ RRC CONNECTION SETUP107 $\rightarrow$ RRC CONNECTION SETUP108 $\rightarrow$ LOCATION UPDATINGREQUEST109SS109SS109SS109SS109SS109SS109SS109SS109SS109SS109SS109SS109SS1094SS1095 $\rightarrow$ CELL UPDATERRC CONNECTION RELEASECCCH.CCCH.CCCH.CCCH.CCCH.CCCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH.CCH. </td <td>102</td> <td>د ا</td> <td></td> <td>updated" in cell A.</td>	102	د ا		updated" in cell A.
The following messages are sent and shall be received on cell B.104SSThe RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable. Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE)105 $\rightarrow$ RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETEEstablishment cause: Registration.108 $\rightarrow$ LOCATION UPDATING REQUESTlocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.109SS(void) CCH. RRC CONNECTION RELEASECCCH. CCCH. CCH. CCH. performs step 15c.109SSThe following messages are sent and shall be received on cell A	103	7	COMPLETE	
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$105$ $\rightarrow$ RRC CONNECTION REQUESTSet the cell type of cell A to the "non-suitable cell". (NOTE) $105$ $\rightarrow$ RRC CONNECTION REQUESTEstablishment cause: Registration. $106$ $\leftarrow$ RRC CONNECTION SETUP COMPLETEEstablishment cause: Registration. $108$ $\rightarrow$ LOCATION UPDATING REQUESTlocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14. $109$ SS(void) CELL UPDATE 109cCCCH. CCCH. CCCH. $109$ SSCELL UPDATE RRC CONNECTION RELEASECCCH. CCCH. CCCH. $109d$ SSThe following messages are sent and shall be received on cell A				that cell A is not suitable. Set the cell type of cell B to the
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				Set the cell type of cell A to the "non-suitable cell"
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				(NOTE)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	105	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	106	÷	RRC CONNECTION SETUP	
$108$ $\rightarrow$ COMPLETE LOCATION UPDATING REQUESTlocation updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14. $109$ SS(void) $109b$ $\rightarrow$ CELL UPDATE RRC CONNECTION RELEASECCCH. CCCH. performs step 15c. $109d$ SS	107	$\rightarrow$	RRC CONNECTION SETUP	
1087LOCATION OF DATINGIndication updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI. performs step 14.109SS(void)109b $\rightarrow$ CELL UPDATE RRC CONNECTION RELEASECCCH. CCCH. performs step 15c.109dSS	100			location undefine type - normal CKSN - no key
109SS(void)CELL UPDATECCCH.109c $\leftarrow$ RRC CONNECTION RELEASECCCH.109dSSSS	100	~	REQUEST	available $I A I = a$ mobile station classmark 1 as given by
$ \begin{array}{c ccccc} 109 & SS & \\ 109a & & \\ 109b & \rightarrow & CELL UPDATE & \\ 109c & \leftarrow & RRC CONNECTION RELEASE & CCCH. \\ 109d & SS & & \\ \end{array} $				the ICS and mobile identity = $TMSI$ .
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	109	SS		performs step 14.
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	109a		(void)	
109c     ←     RRC CONNECTION RELEASE     CCCH.       109d     SS     Performs step 15c.	109b	$\rightarrow$		CCCH.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1090	← ~	RRC CONNECTION RELEASE	CCCH.
	The follo	U SS Wing messa	I des are sent and shall be received o	r cell Δ

ſ	Step	Dire	ction	Message	Comments
		UE	SS		
	110	S	S		The RF level of cell B is lowered until the UE selects cell
					A. The RF level of cell B is set sufficiently low to ensure
					"Serving cell"
					Set the cell type of cell B to the "non-suitable cell".
					(NOTE)
	110a	-	<b>&gt;</b>	RRC CONNECTION REQUEST	Establishment cause: Registration.
	110b	•	<u>.</u>	RRC CONNECTION SETUP	
	110c	-	<b>→</b>	RRC CONNECTION SETUP	
	1104		2		location undefine type - normal CKSN - no key
	riou		/	REQUEST	available I AI = deleted I AI (the MCC and MNC hold the
					previous values, the LAC is coded FFFE), mobile station
					classmark 1 as given by the ICS and mobile identity =
					IMSI.
	110e	S	S		performs step 14.
	110t		→ ,		
	110g 110b	¢		RRC CONNECTION RELEASE	CUCH.
	111		- -	Mobile terminated establishment	See TS 34 108 clause 7 1 2
			-	of Radio Resource Connection	"Initial UE identity" = IMSI.
					Establishment Cause: Terminating Conversation Call.
	112	-	<b>&gt;</b>	PAGING RESPONSE	"Mobile identity" = IMSI, CKSN = no key available.
	113	•	<u>,</u>	RRC CONNECTION RELEASE	
	114	-	<b>→</b>		
L		The d	ofinitio	CONFLETE	Le celli are specified in TS 34 108 clause 6 1 "Peference
	INUTE.	Radio	Condi	tions for signalling test cases only".	

None.

## 9.4.3.2.5 Test requirement

 At step 13 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key available" and the Location Updating Type IE set to "normal location updating".

2)

- 2.1 At step 40 the UE shall not answer to paging with the previously allocated TMSI.
- 2.2 At step 43 the UE shall not perform the IMSI detach procedure.
- 3) At step 67 the UE shall send a CM SERVICE REQUEST message with CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI.

At step 69 the UE shall send an EMERGENCY SETUP message.

- 4) At step 93 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating".
- 5) At step 112 the UE shall send a PAGING RESPONSE message with CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI.
- 6) At step 110d the UE shall perform a normal location updating procedure.

## 9.4.3.3 Location updating / abnormal cases / attempt counter equal to 4

- 9.4.3.3.1 Definition
- 9.4.3.3.2 Conformance requirement
  - 1) When four failures such as cases d) to h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE shall:
    - 1.1 perform location updating after T3212 expiry by sending a LOCATION UPATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type set to "normal location updating";
    - 1.2 if the T3212 initiated location updating was unsuccessful, then after T3211 expiry the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating".
  - 2) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE shall not perform the IMSI detach procedure, when switchd off.
  - 3) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the UE, if it supports speech, shall be able to perform an emergency call i.e. the UE is able to send a CM SERVICE REQUEST message with the CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key is available" and Mobile Identity IE set to its IMSI and then send an EMERGENCY SETUP message.
  - 4) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:
    - 4.1 the UE shall use a request from CM entity for MM connection for a service other than emergency call as a trigger for a normal location updating procedure and shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating";
    - 4.2 after a location updating triggered by a request from the CM layer which was .unsuccessful, after T3211 expiry the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal location updating".
  - 5) When four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:
    - 5.1 the UE shall perform a normal location updating procedure if it enters a new cell;
    - 5.2 if this location updating is unsuccessful, after T3211 expiry the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

#### References

TS 24.008 clause 4.4.4.9.

## 9.4.3.3.3 Test purpose

To verify that the UE performs normal location updating procedures after T3212 expiry, when its attempt counter has reached value 4 and that the UE reset its attempt counter after a timer T3212 expiry.

To verify that the UE still follows the MM IDLE state and ATTEMPTING TO UPDATE substate requirements after its attempt counter has reached value 4.

To verify that the attempt counter is reset in the cases where it has to be done.

#### 9.4.3.3.4 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b;
  - IMSI attach/detach is allowed in both cells;
  - T3212 is set to 6 minutes.
- User Equipment:
  - the UE is "Idle updated" on cell B with a valid CKSN and a TMSI.

#### Related ICS/IXIT statements

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

#### Test Procedure

The UE is made to perform a normal location updating. The SS triggers a failure in this procedure by modifying scrambing code of DL DPCH. After T3211 expiry the UE will try again the location updating procedure. The SS triggers again a failure by modifying it. This is done again 2 times. At this point the attempt counter shall be equal to 4. It is then checked that T3212 has been started and that at its expiry the UE will try a normal location updating procedure. It is verified that the UE has reset its attempt counter after timer T3212 expiry.

Then it is checked that, when the attempt counter has reached the value of 4, the UE is in the MM IDLE state and ATTEMPTING TO UPDATE substate, that is:

- not perform an IMSI detach procedure;
- support request for emergency call;
- use requests from CM layer other than emergency call as triggering of a normal location updating procedure;
- perform normal location updating procedure when a new cell is entered.

## Release 4

# Expected sequence

Step	Direction	Message	Comments
	UE SS		
The follo	wing messag	pes are sent and shall be received or	n cell A.
1	SS		The RF level of cell B is lowered until the UE selects cell
			A. The RF level of cell B is set sufficiently low to ensure
			that cell B is not suitable. Set the cell type of cell A to the
			<u>"Serving cell".</u>
2	→		(NOTE) Establishment cause: Registration
3	-	RRC CONNECTION SETUP	Establishment cause. Registration.
4	$\rightarrow$	RRC CONNECTION SETUP	
	-	COMPLETE	
5	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = initial value, LAI
		REQUEST	= b, mobile station classmark 1 as given by the ICS and
			mobile identity = TMSI.
6	←	LOCATION UPDATING REJECT	IE Reject cause is set to #22 in table 10.5.95 of
			TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15
_	,		being excluded.
1	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
0			link.
8	7		
٩		COMFLETE	The LIE shall not initiate an RRC connection
3	0L		establishment on cell A or on cell B during T3211
			seconds at least after the RRC connection is released.
10	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
11	←	RRC CONNECTION SETUP	
12	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
13	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
1/	22		= IMDI. The SS modifies the scrambling code of DL DPCH for
14			deperating lower layer failure
15		(void)	generating lower layer landre.
15a	$\rightarrow$	CELL UPDATE	CCCH.
15b	÷	RRC CONNECTION RELEASE	CCCH.
15c	SS		The SS re-modifies the scrambling code of DL DPCH to
			the original one.
15d	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during T3211
16	د.		seconds at least after the RKC connection is released.
10			Establishment cause. Registration.
18	$\rightarrow$	RRC CONNECTION SETUP	
10	, í	COMPLETE	
19	$\rightarrow$	LOCATION UPDATING	location updating type = normal. CKSN = no key
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
			= IMSI.
20	←	AUTHENTICATION REQUEST	
21	$\rightarrow$	AUTHENTICATION RESPONSE	Steps 20 and 21 are performed N times. N shall be
22			chosen in such a way that 13210 expires.
22	UE		ine UE shall cease transmission and then shall not
			cell B during T3211 seconds at least after the expire of
			T3210
23	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration
24	←	RRC CONNECTION SETUP	
25	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	

l

Step	Direction	Message	Comments
	UE   SS		
26	→ →	REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
27	÷	RRC CONNECTION RELEASE	= IMSI. The SS waits for the disconnection of the main signalling link.
28	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
29	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3212 (tolerance -15s; 45s) at least after the RRC connection is released.
30	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
31	÷	RRC CONNECTION SETUP	
32	$\rightarrow$	RRC CONNECTION SETUP	
22	``		leastion undation type: "normal leastion undate" CKCN
33	7		no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
34 35	<ul><li>←</li></ul>	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
36	$\rightarrow$	RRC CONNECTION RELEASE	
37		COMPLETE	The LIE shall not initiate an RRC connection
57	OL		establishment on cell A or on cell B during T3211 seconds at least after the RRC connection is released.
38	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
39	÷	RRC CONNECTION SETUP	
40	$\rightarrow$	RRC CONNECTION SETUP	
41	<i>→</i>	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI
42	÷	AUTHENTICATION REQUEST	CKSN = initial CKSN.
43	$\rightarrow$	AUTHENTICATION RESPONSE	
43a	÷	SECURITY MODE COMMAND	
43b	$\rightarrow$	SECURITY MODE COMPLETE	
44	÷	LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
45	$\rightarrow$		
46	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
	_		disconnection of the main signalling link. UE is now "idle, updated" in cell A.
47	$\rightarrow$	RRC CONNECTION RELEASE	
The follo	wing messag	ges are sent and shall be received or	n cell B.
48	SS		The RF level of cell A is lowered until the UE selects cell
49 50 51	→ ← →	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable.Set the cell type of cell B to the "Serving cell". Set the cell type of cell A to the "non-suitable cell". (NOTE) Establishment cause: Registration.
52	÷	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.

01	Discotion	Managara	0
Step	Direction	Message	Comments
53	UE   35 <del>(</del>	LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15
54	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
55	$\rightarrow$	RRC CONNECTION RELEASE	1111K.
56	UE		The UE shall not initiate an RRC connection
57	$\rightarrow$	RRC CONNECTION REQUEST	seconds at least after the RRC connection is released. Establishment cause: Registration.
58	←	RRC CONNECTION SETUP	
59	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	
60	$\rightarrow$	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
61	SS		The SS modifies the scrambling code of DL DPCH for generating lower layer failure.
61a		(void)	
61b	$\rightarrow$		CCCH.
61c	÷	RRC CONNECTION RELEASE	CCCH.
61d	55		The SS re-modifies the scrambling code of DL DPCH to
610			the original one.
ore	UE		The DE shall not initiate an RRC connection
			establishinent on cell A of on cell B during 13211
62	$\rightarrow$		Establishment cause: Registration
63	é	RRC CONNECTION SETUP	
64	$\rightarrow$	RRC CONNECTION SETUP	
04	,	COMPLETE	
65	<i>&gt;</i>	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
66	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
67	$\rightarrow$	RRC CONNECTION RELEASE	
68	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211
			seconds at least after the RRC connection is released.
69	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
70	÷	RRC CONNECTION SETUP	
71	$\rightarrow$	RRC CONNECTION SETUP	
70	、 、		leasting undefine turner normal CKCNL no logy
12	7	REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
73	SS		performs step 53 and 54
74	UE		performs step 55.
	0-		If the UE supports speech, it is made to perform an
			emergency call.
75	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Emergency call.
76	÷	RRC CONNECTION SETUP	
77	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
78	$\rightarrow$	CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.
79	÷	CM SERVICE ACCEPT	
80	$\rightarrow$	EMERGENCY SETUP	
81	←	RELEASE COMPLETE	Cause = unassigned number.

Step	Direction	Message	Comments
	UE SS		
82	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
02	د ا		шпк.
00		COMPLETE	
84	UE		If possible (see ICS) USIM detachment is performed
			Otherwise if possible (see ICS) switch off is performed.
			Otherwise the power is removed.
85	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B. This is checked
			during 30 s.
86	UE		Depending on what has been performed in step 84 the
07			UE is brought back to operation.
87			Establishment cause: Registration.
00 89	$\rightarrow$	RRC CONNECTION SETUP	
03	,	COMPLETE	
90	$\rightarrow$	LOCATION UPDATING	location updating type = normal. CKSN = no key
	-	REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
			= IMSI.
91	÷	AUTHENTICATION REQUEST	CKSN = initial CKSN.
92	$\rightarrow$	AUTHENTICATION RESPONSE	
92a	$\leftarrow$		
920	7		IE mobile Identity - now TMSI
93	$\rightarrow$	TMSL REALLOCATION	TE mobile identity = new misi.
54	, í	COMPLETE	
95	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link. UE is now "idle,
			updated" in cell B.
96	$\rightarrow$	RRC CONNECTION RELEASE	
	wing messag	jes are sent and shall be received of	The DE level of cell B is lowered until the LIE colorts cell
97			A The RE level of cell B is set sufficiently low to ensure
			that cell B is not suitable. Set the cell type of cell A to the
			"Serving cell".
			Set the cell type of cell B to the "non-suitable cell".
			( <u>NOTE)</u>
98	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
99	←	RRC CONNECTION SETUP	
100	$\rightarrow$	COMPLETE	
101	→		location undating type – normal CKSN – initial value I AL
101	,	REQUEST	= b mobile station classmark 1 as given by the ICS and
			mobile identity = TMSI.
102	←	LOCATION UPDATING REJECT	IE Reject cause is set to #38 in table 10.5.95 of
			TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15
			being excluded.
103	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
			link.
104	$\rightarrow$	RRC CONNECTION RELEASE	
105		COMPLETE	The LIE shall not initiate an PPC connection
105	UE		establishment on cell A or on cell B during T3211
			seconds at least after the RRC connection is released
106	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
107	←	RRC CONNECTION SETUP	
108	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
109	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
110	22		The SS modifies the scrambling code of DL DPCH for
			generating lower layer failure.

Step	Direction	Message	Comments
	UE SS		
111		(void)	
111a	$\rightarrow$	CELL UPDATE	CCCH.
111b	←	RRC CONNECTION RELEASE	
111c	SS		The SS re-modifies the scrambling code of DL DPCH to
444-1			the original one.
1110	UE		I ne UE shall not initiate an RRC connection
			establishment on cell A of on cell B during 13211
112	→		Establishment cause: Periotration
112	Ĺ É	RRC CONNECTION SETUP	
114	$\rightarrow$	RRC CONNECTION SETUP	
	,	COMPLETE	
115	$\rightarrow$	LOCATION UPDATING	location updating type = normal. CKSN = no key
_		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
			= IMSI.
116	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
			link.
117	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
118	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during T3211
			seconds at least after the RRC connection is released.
119	$\rightarrow$		Establishment cause: Registration.
120			
121	~		
122	$\rightarrow$		location updating type – normal CKSN – no key
122	,	REQUEST	available $I AI = deleted I AI (the MCC and MNC hold the$
			previous values, the LAC is coded FFFE) mobile station
			classmark 1 as given by the ICS and mobile identity =
			IMSI.
123		(void)	
123a	UE		performs step 61a.
123b	$\rightarrow$	CELL UPDATE	CCCH.
123c	<i>←</i>	RRC CONNECTION RELEASE	СССН.
123d	SS		performs step 61d.
124	UE		A MO CM connection is attempted before 13212 expiry.
125			Establishment cause: Registration.
120			
127	~		
128	$\rightarrow$		location updating type = normal_CKSN = no key
120	,	REQUEST	available $I AI = deleted I AI (the MCC and MNC hold the$
		1.200201	previous values, the LAC is coded FFFE). Mobile Identity
			= IMSI.
129		(void)	
129a	UE		performs step 61a.
129b	$\rightarrow$	CELL UPDATE	СССН.
129c	←	RRC CONNECTION RELEASE	CCCH.
129d	SS		performs step 61d.
130	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during 13211
121	L _	RRC CONNECTION REQUEST	Seconds at least after the KKC connection is released.
131	Ĺ	RRC CONNECTION SETUD	Lotabiloninen Gause. Registration.
133	$ $ $\stackrel{`}{\rightarrow}$	RRC CONNECTION SETUP	
100		COMPLETE	
134	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no kev
-		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE), Mobile Identity
			= IMSI.
135	←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
136	$\rightarrow$	AUTHENTICATION RESPONSE	
136a	l É	SECURITY MODE COMMAND	
136b	→	SECURITY MODE COMPLETE	

Step	Direction	Message	Comments
107	UESS		
137	$\leftarrow$		IE mobile identity = new IMSI.
100	, ,	COMPLETE	
139	÷	RRC CONNECTION RELEASE	
140	$\rightarrow$		UE is now "idle, updated" in cell A. The UE may or may
			steps 141 to 147 are therefore optional for the UE. The
			SS waits 10 s whether to decide to go directly to step
141	$\rightarrow$	RRC CONNECTION REQUEST	148.
142	÷	RRC CONNECTION SETUP	
143	$\rightarrow$	RRC CONNECTION SETUP	
144	$\rightarrow$	COMPLETE CM SERVICE REQUEST	CKSN = initial value. Mobile identity = TMSI
145	÷	CM SERVICE REJECT	cause #17 (network failure).
146	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
147	$\rightarrow$	RRC CONNECTION RELEASE	III IK.
		COMPLETE	
The follo	wing messa	ges are sent and shall be received or	n cell B.
140			B. The RF level of cell A is set sufficiently low to ensure
			that cell A is not suitable. Set the cell type of cell B to the
			<u>"Serving cell".</u> Set the cell type of cell A to the "non-suitable cell"
			(NOTE)
149	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
150	$\rightarrow$	RRC CONNECTION SETUP	
	_	COMPLETE	
152	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = initial value, LAI
			mobile identity = TMSI.
153	<del>~</del>	LOCATION UPDATING REJECT	IE Reject cause is set to #38 in table 10.5.95 of
			TS 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded.
154	<del>~</del>	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
155	<u>ح</u>		link
155		COMPLETE	
156	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during 13211 seconds at least after the RRC connection is released
157	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
158		RRC CONNECTION SETUP	
159		COMPLETE	
160	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUESI	available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded EEEE). Mobile Identity
			= IMSI.
161	SS		The SS modifies the scrambling code of DL DPCH for
162		(void)	generating lower layer failure.
162a	$\rightarrow$	CELL UPDATE	СССН.
162b	← ~	RRC CONNECTION RELEASE	CCCH.
1020	33		the original one.
162d	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B during 13211 seconds at least after the RRC connection is released
163	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
164	→	RRC CONNECTION SETUP	
105		COMPLETE	

Step	Direction	Message	Comments
166		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
167	÷	RRC CONNECTION RELEASE	= IMSI. The SS waits for the disconnection of the main signalling link
168	$\rightarrow$	RRC CONNECTION RELEASE	
169	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC connection is released
170 171 172	$ \begin{array}{c} \rightarrow \\ \leftarrow \\ \rightarrow \end{array} $	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	Establishment cause: Registration.
173	<i>→</i>	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
174 174a	+ +	LOCATION UPDATING REJECT RRC CONNECTION RELEASE	IE Reject cause = "retry upon entry into a new cell". The SS waits for the disconnection of the main signalling link.
174b	$\rightarrow$	RRC CONNECTION RELEASE	
The follo	wing message	ges are sent and shall be received or	n cell A.
175	SS		The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "non-suitable cell".
176 177 178	$\stackrel{\rightarrow}{\leftarrow}$	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	Establishment cause: Registration.
179	→ ~	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available , LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
180 181	55	(void)	performs the step 61.
181a 181b	$\rightarrow$ $\leftarrow$	CELL UPDATE RRC CONNECTION RELEASE	CCCH. CCCH.
181c	SS		The SS re-modifies the scrambling code of DL DPCH to the original one.
181d	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC connection is released.
182 183 184	$ \begin{array}{c} \rightarrow \\ \leftarrow \\ \rightarrow \end{array} $	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	Establishment cause: Registration.
185	<i>→</i>	COMPLETE LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity
186 187 187a 187b	$\begin{array}{c} \leftarrow \\ \rightarrow \\ \leftarrow \\ \rightarrow \end{array}$	AUTHENTICATION REQUEST AUTHENTICATION RESPONSE SECURITY MODE COMMAND SECURITY MODE COMPLETE	CKSN = initial CKSN.
188 189	$\leftarrow$	LOCATION UPDATING ACCEPT TMSI REALLOCATION COMPLETE	IE mobile Identity = new TMSI.

Step	Direction	Message	Comments
100	UE SS		After the conding of this measure, the CS weits for the
190		RRC CONNECTION RELEASE	disconnection of the main signalling link. UE is now "idle, updated" in cell A.
191	$\rightarrow$	RRC CONNECTION RELEASE	
NOTE:	The definitio	ns for "Serving cell" and "non-suitabl	e cell" are specified in TS 34.108 clause 6.1 "Reference
	Radio Cond	itions for signalling test cases only".	

None.

#### 9.4.3.3.5 Test requirement

- 1) 1.1 At step 33 the UE shall perform location updating procedure.
  - 1.2 At step 41 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".
- 2) At step 85 the UE shall not perform the IMSI detach procedure.
- 3) At step78 the UE shall send a CM SERVICE REQUEST message with the CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key is available" and Mobile Identity IE set to its IMSI.

At step 80 the UE shall send an EMERGENCY SETUP message.

4)

- 4.1 At step128 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating";
- 4.2 At step 134 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

## 5)

- 5.1 At step 179 the UE shall perform a normal location updating procedure if it enters a new cell;
- 5.2 At step 185 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

# 9.4.3.4 Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI

9.4.3.4.1 Definition

## 9.4.3.4.2 Conformance requirement

- 1) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during a periodic location updating procedure (the broadcast LAI is equal to the stored LAI):
  - 1.1 the UE shall be able to establish an MM connection i.e. send a RRC CONNECTION REQUEST message and then a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;
  - 1.2 then the UE shall not attempt a location updating procedure.

- 2) When a failure such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 has occurred during an IMSI attach procedure (the broadcast LAI is equal to the stored LAI):
  - 2.1 the UE shall be able to establish an MM connection i.e. send a RRC CONNECTION REQUEST message and then a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;
  - 2.2 then the UE shall not attempt a location updating procedure.
- 3) When a failure such as cases d), f), g) and h) of clause 4.4.9 of TS 24.008 has occurred during a periodic location updating procedure and the attempt counter is smaller than 4 the UE shall send, after T3211 expiry, a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "periodic updating".
  - 3.1 When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a periodic location updating procedure) after T3212 expiry it shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal".
- 4) When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during a periodic location updating procedure) it shall use a request for a CM connection other than emergency call as a trigger for a location updating procedure.
- 5) When a failure such as cases d), f), g) and h) of clause 4.4.9 of TS 24.008 has occurred during an IMSI attach procedure and the attempt counter is smaller than 4 the UE shall send, after T3211 expiry, a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating type set to "IMSI attach".
  - 5.1 When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during an IMSI attach procedure) after T3212 expiry it shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "normal".
- 6) When the UE's attempt counter reaches the value 4 (four failures such as cases d), f), g) and h) of clause 4.4.4.9 of TS 24.008 have occurred during an IMSI attach procedure) it shall use a request for a CM connection other than emergency call as a trigger for a location updating procedure.

#### References

TS 24.008 clause 4.4.4.9.

## 9.4.3.4.3 Test purpose

To verify that in the case when the attempt counter is smaller than 4 and the broadcast LAI is equal to the stored LAI, the UE is in the MM IDLE state and NORMAL SERVICE substate. To verify that timer T3211 is stopped after a MM connection establishment.

To verify that the UE uses the T3211 timer. and that it enters the MM IDLE state and NORMAL SERVICE substate when its attempt counter reaches value 4 even in the case where the stored LAI is equal to the broadcast LAI.

## 9.4.3.4.4 Method of test

#### Initial conditions

- System Simulator:
  - one cell: B, belonging to location area b;
  - IMSI attach/detach is allowed;
  - T3212 is set to 6 minutes.

- User Equipment:
  - the UE is "Idle updated" on cell B with a valid CKSN and a TMSI.

Related ICS/IXIT statements

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

#### Test Procedure

A failure during the periodic location updating is triggered: as the broadcast LAI is equal to the stored LAI, the UE is still in the MM IDLE state and NORMAL SERVICE substate and timer T3211 is started. A CM connection other than for emergency call is attempted. It is checked that this is possible and that T3211 is stopped. Same test is performed with a failure during an IMSI attach procedure.

Then failures are triggered during the periodic location updating to let the attempt counter to reach the value of 4. The UE shall enter the MM IDLE state and ATTEMPTING TO UPDATE substate and delete any TMSI, stored LAI, ciphering key sequence number and ciphering key. When the attempt counter reaches the value of 4, timer T3212 shall be started. At timer T3212 expiry a location updating procedure is started. A request for CM connection other for than emergency call shall trigger a location updating procedure.

Same tests are performed when the failures are triggered during an IMSI attach procedure.

#### Expected sequence

Step	Direc	tion	Message	Comments
	UE	SS		
1	S	S		The SS shall wait at most T3212 + 45 s.
2		<b>&gt;</b>	RRC CONNECTION REQUEST	Establishment cause: Registration.
3	<b></b>	-	RRC CONNECTION SETUP	
4		<b>&gt;</b>	RRC CONNECTION SETUP	
			COMPLETE	
5		<b>&gt;</b>	LOCATION UPDATING	location updating type = periodic, CKSN = initial value,
			REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
				and mobile identity = TMSI.
6	S	S		performs step 6, of 9.4.3.2 with cause #17 and step 7 of
				9.4.3.2.
6a	U	E		performs step 8 of 9.4.3.2.
7	U	E		A MO CM connection is attempted before T3211 expiry.
8		<b>&gt;</b>	RRC CONNECTION REQUEST	
9	+	_	RRC CONNECTION SETUP	
10	10 →	<b>&gt;</b>	RRC CONNECTION SETUP	
			COMPLETE	
11		<b>&gt;</b>		CKSN = Initial CKSN, Mobile Identity = IMSI.
12	• •	_		
13		<b>&gt;</b>	An initial CM message	
14	2	-	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
45				link.
15	-	7		
16	0	c	COMPLETE	The LIE shall not initiate on PBC connection
10	0.	3		astablishment. This is shocked during T2211
17	11	F		If pageible (and ICS) USIM detectment in performed
17	0	L		Otherwise if passible (see ICS) USIM detachment is performed.
				Otherwise in possible (see ICS) switch of is performed.
Stope 10	) to 00	<u> </u>	tional	Otherwise the power is removed.
Steps To	5 10 23	are op		Establishment Osura Datash
18		7		Establishment Gause: Detach
19		_		
20	- I	7		
21	,	<b>`</b>		
21		7		
22	- E	-	KKU UUNNEU HUN KELEASE	

Step	Direction	Message	Comments
	UE		
23	→		
24		COMPLETE	Depending on what has been performed in stop 17 the
24	UE		Depending on what has been performed in step 17 the
25	<u>د</u>		DE is brought back to operation.
20			Establishment cause. Registration.
20			
21	7		
28	$\rightarrow$		location undating type – IMSI attach CKSN – initial
20	,	REQUEST	value $I AI = b$ mobile station classmark 1 as given by the
			ICS and mobile identity = $TMSI$
29	SS		nerforms step 14 of 9 4 3 2
29a	00	(void)	
29b	$\rightarrow$	CELL UPDATE	СССН.
29c	←	RRC CONNECTION RELEASE	CCCH.
29d	SS		performs step 15c of 9.4.3.2.
30	UE		A MO CM connection is attempted before T3211 expiry.
31	$\rightarrow$	RRC CONNECTION REQUEST	
32	÷	RRC CONNECTION SETUP	
33	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
34	$\rightarrow$	CM SERVICE REQUEST	CKSN = initial CKSN, Mobile Identity = TMSI.
35	←	SECURITY MODE COMMAND	
36	$\rightarrow$	SECURITY MODE COMPLETE	
37	$\rightarrow$	An initial CM message	
38	←	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
			link.
39	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
40	SS		The UE shall not initiate an RRC connection
			establishment. This is checked during T3211 UE is "idle,
			updated" in cell B.
40/1	UE		If possible (see ICS) USIM detachment is performed.
			Otherwise if possible (see ICS) switch off is performed.
			Otherwise the power is removed.
Steps 40	0/2 to 40/7 ar	e optional.	
40/2	$\rightarrow$	RRC CONNECTION REQUEST	Establishment Cause: Detach
40/3	←	RRC CONNECTION SETUP	
40/4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
40/5	$\rightarrow$	IMSI DETACH INDICATION	
40/6	←	RRC CONNECTION RELEASE	
40/7	→ →	RRC CONNECTION RELEASE	
40/0			Depending on what has been nerformed in star 40/4 the
40/0	UE		Depending on what has been performed in step 40/1, the
40/0	L .		DE is biologific back to operation.
40/9	- -		Lotabilorinten vause. Negisialion.
40/10	$\rightarrow$		
10/11			
40/12	$\rightarrow$		location undating type – IMSI attach CKSN – initial
70/12		REQUEST	value $ A  = b$ mobile station classmark 1 as given by the
			ICS and mobile identity – TMSI
40/13	←		without mobile identity
40/14	È È	RRC CONNECTION RELEASE	without mobile lucifiity
40/15	$\rightarrow$	RRC CONNECTION RELEASE	
10/10		COMPLETE	
41	SS		The SS shall wait at most T3212 + 15 s
42	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
43	-	RRC CONNECTION SETUP	
44	) →	RRC CONNECTION SETUP	
		COMPLETE	
45	$\rightarrow$	LOCATION UPDATING	location updating type = periodic. CKSN = initial value.
-		REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
			and mobile identity = TMSI.
46	SS		performs step 14 of 9.4.3.2.
	•	•	

Step	Direction	Message	Comments
46a		(void)	
46b	$\rightarrow$		СССН
46c	, ←	RRC CONNECTION RELEASE	СССН
46d	SS		performs step 15c of 9.4.3.2.
47	UE		The UE shall not initiate an RRC connection
••			establishment during T3211 at least after the RRC
			connection is released.
48	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
49	←	RRC CONNECTION SETUP	
50	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
51	$\rightarrow$	LOCATION UPDATING	location updating type = periodic, CKSN = initial value,
		REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
			and mobile identity = TMSI.
52	SS		performs step 6 of 9.4.3.2 with cause #17 and step 7 of
			9.4.3.2.
52a	UE		performs step 8 of 9.4.3.2.
53	UE		The UE shall not initiate an RRC connection
			establishment during T3211 at least after the RRC
			connection is released.
54	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
55	←	RRC CONNECTION SETUP	
56	$\rightarrow$	RRC CONNECTION SETUP	
	_	COMPLETE	
57	$\rightarrow$	LOCATION UPDATING	location updating type = periodic, CKSN = initial value,
		REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
			and mobile identity = TMSI.
58	SS		performs step 14 of 9.4.3.2.
59		(void)	
59a	$\rightarrow$	CELL UPDATE	CCCH.
59b	÷	RRC CONNECTION RELEASE	CCCH.
59c	SS		The SS re-modifies the scrambling code of DL DPCH to
			the original one.
59d	UE		The UE shall not initiate an RRC connection
			establishment during T3211 at least after the RRC
			connection is released.
60	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
61	←	RRC CONNECTION SETUP	
62	$\rightarrow$	RRC CONNECTION SETUP	
60			leastion undation turne ineriadia CKON initial value
63	7		location updating type = periodic, CKSN = Initial value,
		REQUEST	LAI = D, mobile station classmark 1 as given by the ICS
04			and mobile identity = TMSI.
64	55	(void)	penorms step 14 or 9.4.3.2.
04a 61h	<u>د</u>		СССН
640 640			
640	66		performs step 15c of 9.4.3.2
65 65			The LIE shall not initiate an PPC connection
00			establishment during T3212 seconds at least after the
			RRC connection is released
66	<b>د</b>		Establishment cause: Registration
67	-	RRC CONNECTION SETUP	Lotabionment dause. Registration.
68	) À	RRC CONNECTION SETUP	
00	,	COMPLETE	
69	$\rightarrow$		location updating type = normal $CKSN = no key$
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFF) mobile station
			classmark 1 as given by the ICS and mobile identity –
			IMSI
70	←	AUTHENTICATION REQUEST	CKSN = initial CKSN
71	$\rightarrow$	AUTHENTICATION RESPONSE	
712	-	SECURITY MODE COMMAND	
71h	$\rightarrow$	SECURITY MODE COMPLETE	
72		(void)	
	I		1 I

Step	Direction	Message	Comments
72a	<u>+</u>	LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
726	7	COMPLETE	
73	÷	RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling
74	$\rightarrow$	RRC CONNECTION RELEASE	
75	UE		The UE shall not initiate an RRC connection
			the RRC connection is released.
76 77	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
78	$\rightarrow$	RRC CONNECTION SETUP	
79	$\rightarrow$	COMPLETE	location updating type = periodic, CKSN = initial value
	-	REQUEST	LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = $TMSI$
80	SS		performs step 6 of 9.4.3.2 with cause #17 and step 7 of
80a	UE		9.4.3.2. performs step 8 of 9.4.3.2.
04			The LIE shall not initiate on DDC connection
81	UE		establishment during T3211 at least after the RRC connection
82	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
83 84	$\leftarrow$	RRC CONNECTION SETUP	
85	$\rightarrow$	COMPLETE	location undating type – periodic CKSN – initial value
00	,	REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
86	SS		and mobile identity = TMSI. performs step 14 of 9.4.3.2.
87	· · ·	(void)	
87a 87b	$\rightarrow$	RRC CONNECTION RELEASE	CCCH.
87c	SS		The SS re-modifies the scrambling code of DL DPCH to
87d	UE		The UE shall not initiate an RRC connection
			establishment during T3211 at least after the RRC connection is released.
88	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
89 90	$\stackrel{\leftarrow}{\rightarrow}$	RRC CONNECTION SETUP	
91	$\rightarrow$	COMPLETE	location undating type – periodic CKSN – initial value
51	,	REQUEST	LAI = b, mobile station classmark 1 as given by the ICS
92	SS		and mobile identity = TMSI. performs step 14 of 9.4.3.2.
92a	· · ·	(void)	
920 92c	→ ←	RRC CONNECTION RELEASE	CCCH.
92d 93	SS		performs step 15c of 9.4.3.2.
90	UL		establishment during T3211 at least after the RRC
94	$\rightarrow$	RRC CONNECTION REQUEST	connection is released. Establishment cause: Registration.
95	$\leftarrow$	RRC CONNECTION SETUP	
90	7	COMPLETE	
97	$\rightarrow$	LOCATION UPDATING	location updating type = periodic, CKSN = initial value,
	_		and mobile identity = TMSI.
98	SS		performs step 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
98a	UE		performs step 8 of 9.4.3.2.

Step	Direction	Message	Comments
	UE SS		
99	UE		A MO CM connection is attempted before T3212 expiry.
100	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
101	÷	RRC CONNECTION SETUP	
102	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
103	$\rightarrow$	LOCATION UPDATING	location updating type = normal, CKSN = no key
		REQUEST	available, LAI = deleted LAI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE) mobile station
			classmark 1 as given by the ICS and mobile identity =
			IMSI.
104	←	LOCATION UPDATING ACCEPT	IE mobile identity = TMSI.
105	$\rightarrow$	TMSI REALLOCATION	,
		COMPLETE	
106	÷	RRC CONNECTION RELEASE	
107	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
Steps 10	8 to 114 are	optional. Wait 10 s to decide whether	er to go directly to step 115.
108	$\rightarrow$	RRC CONNECTION REQUEST	
109	÷	RRC CONNECTION SETUP	
110	$\rightarrow$	RRC CONNECTION SETUP	
-		COMPLETE	
111	$\rightarrow$	CM SERVICE REQUEST	CKSN = no key available. Mobile identity = TMSI
112	←	CM SERVICE REJECT	cause #17 (network failure).
113	←	RRC CONNECTION RELEASE	
114	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
115	UE		If possible (see ICS) USIM detachment is performed.
			Otherwise if possible (see ICS) switch off is performed.
			Otherwise the power is removed.
Steps 11	6 to 121 are	optional.	
116	$\rightarrow$	RRC CONNECTION REQUEST	Establishment Cause: Detach
117	÷	RRC CONNECTION SETUP	
118	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
119	$\rightarrow$	IMSI DETACH INDICATION	
120	$\leftarrow$	RRC CONNECTION RELEASE	
121	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
122	UE		Depending on what has been performed in step 115 the
			UE is brought back to operation.
123	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
124	÷	RRC CONNECTION SETUP	
125	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
126	$\rightarrow$	LOCATION UPDATING	location updating type = IMSI attach, CKSN = no key
		REQUEST	available, LAI = b, mobile station classmark 1 as given by
	~~		the ICS and mobile identity = TMSI.
127	55	(	performs step 14 of 9.4.3.2.
128			0001
128a	$\rightarrow$		
128b	<b>+</b>	KKC CONNECTION RELEASE	UUUTI. The CO is medified the correct line and of DL DDCLL.
1280	55		the spiritul and
400-1			the original one.
1280	UE		The UE shall not initiate an KKU connection
120	<u>د</u>		Establishment cause: Peristration
129	7		Lotabiloninent cause. Negiotation.
100			
131	7		
122	د ا		location updating type - IMSL attach CKSN - no key
152	7		
			available, $LAI = 0$ , HOULE Station Gassinality is given by the ICS and mobile identity - TMSI
122	←	RRC CONNECTION RELEASE	After the sending of the message the SS waits for the $\Delta$
100			disconnection of the main signalling link
I	l	I	alsoonneedon of the main signalling link.

Step	Direction	Message	Comments
40.4	UES		
134	$\rightarrow$	COMPLETE	
135	UE		The UE shall not initiate an RRC connection
			establishment during T3211 at least after the RRC
126	د ا		connection is released.
130		RRC CONNECTION REQUEST	Establishment cause. Registration.
138	$\rightarrow$	RRC CONNECTION SETUP	
400		COMPLETE	
139	$\rightarrow$	REQUEST	location updating type = IMSI attach, CKSN = no key available $I_{AI}$ = b mobile station classmark 1 as given by
			the ICS and mobile identity = $TMSI$ .
140		(void)	,
140a	÷	LOCATION UPDATING REJECT	IE Reject cause is set to #X in table 10.5.95 of
			15 24.008, causes #2, #3, #6, #11, #12, #13 and #15 being excluded
140b	→ <u>←</u>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
141	$\rightarrow$	RRC CONNECTION RELEASE	
142	UE		The UE shall not initiate an RRC connection
	-		establishment during T3211 at least after the RRC
4.40			connection is released.
143	$\rightarrow$		Establishment cause: Registration.
145	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
146	$\rightarrow$	LOCATION UPDATING	location updating type = IMSI attach, CKSN = no key
		REQUEST	the ICS and mobile identity – TMSI
147	SS		performs step 14 of 9.4.3.2.
147a		(void)	
147b	$\rightarrow$		CCCH.
147C	SS	RRC CONNECTION RELEASE	Decide the step 15c of 9 4 3 2
148	UE		The UE shall not initiate an RRC connection
			establishment during T3212 seconds at least after the
1/0	4		RRC connection is released.
149	é	RRC CONNECTION SETUP	L'stablishment cause. Registration.
151	$\rightarrow$	RRC CONNECTION SETUP	
450			
152	7	REQUEST	available I AI = deleted I AI (the MCC and MNC hold the
			previous values, the LAC is coded FFFE) mobile station
			classmark 1 as given by the ICS and mobile identity =
152	4		IMSI. CKSN – initial CKSN
154	$\rightarrow$	AUTHENTICATION RESPONSE	
154a	<del>~</del>	SECURITY MODE COMMAND	
154b	$\rightarrow$		IE mobile Identity - TMSI
155	$\rightarrow$		
		COMPLETE	
157	<ul><li>←</li></ul>	RRC CONNECTION RELEASE	
158	→	KKC CONNECTION RELEASE	
159	UE		If possible (see ICS) USIM detachment is performed.
-			Otherwise if possible (see ICS) switch off is performed.
			Otherwise the power is removed.
Steps 16	to 165 are ان		Establishment Cause: Dotach
161	$\leftarrow$	RRC CONNECTION SETUP	
162	$\rightarrow$	RRC CONNECTION SETUP	
100			
163	7		I I

Step	Direction UE SS	Message	Comments
164	<u>←</u>	RRC CONNECTION RELEASE	
165	$\rightarrow$	RRC CONNECTION RELEASE COMPLETE	
166	UE		Depending on what has been performed in step 159 the UE is brought back to operation.
167	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
168	÷	RRC CONNECTION SETUP	
169	→	RRC CONNECTION SETUP COMPLETE	
170	→ ~	LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
1719		(void)	
171a	→		СССН
1710	É	RRC CONNECTION RELEASE	СССН
171d	22		performs step 15c of $9/432$
172	115		The LIE shall not initiate an PPC connection
172	UE		establishment during T3211 at least after the RRC connection is released.
170	د ا		Establishment cause: Projectration
173			Establishment cause. Registration.
174			
175			
176	$\rightarrow$	LOCATION UPDATING	location updating type = IMSI attach, CKSN = initial value $1 \text{ A}_1$ = b, mobile station classmark 1 as given by the
477	00	REQUEST	ICS and mobile identity = TMSI.
177	55		performs step 6 of 9.4.3.2 with cause #17 and step 7 of 9.4.3.2.
177a	UE		performs step 8 of 9.4.3.2.
178	UE		The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC connection is released.
179	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
180 181	$\stackrel{\leftarrow}{\rightarrow}$	RRC CONNECTION SETUP RRC CONNECTION SETUP	
182	$\rightarrow$		location updating type = IMSI attach, CKSN = initial
400		REQUEST	ICS and mobile identity = TMSI.
183	55	() (a i d)	performs step 14 of 9.4.3.2.
104	<u>د</u>		CCCH
1048			
184c	SS		The SS re-modifies the scrambling code of DL DPCH to
184d	UE		The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC
			connection is released.
185	$\rightarrow$	RRC CONNECTION REQUEST	Establishment cause: Registration.
186 187	$\leftarrow$	RRC CONNECTION SETUP RRC CONNECTION SETUP	
188	$\rightarrow$	COMPLETE LOCATION UPDATING	location updating type = IMSI attach. CKSN = initial
		REQUEST	value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
189	SS		performs step 14 of 9.4.3.2.
189a			0001
189b	$\rightarrow$		
1890	<b></b>	KKC CONNECTION RELEASE	
1890	55		perioritis Step 150 of 9.4.3.2.
190			Establishment cause: Peristration
192	<pre> </pre>	RRC CONNECTION SETUP	

Step	Direc	tion	Message	Comments
-	UE	SS	_	
193	$\rightarrow$	•	RRC CONNECTION SETUP	
			COMPLETE	
194		•	LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
195	←	-	AUTHENTICATION REQUEST	CKSN = initial CKSN.
196		•	AUTHENTICATION RESPONSE	
196a		-	SECURITY MODE COMMAND	
196b		•	SECURITY MODE COMPLETE	
197		-	LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
198	→	•	TMSI REALLOCATION	
100				
199		-		
200		•	COMPLETE	
Steps 20	02 to 20	)8 are	optional.	
201			(void)	
202	$  \rightarrow$	•	RRC CONNECTION REQUEST	
203		-	RRC CONNECTION SETUP	
204	$  \rightarrow$	•	RRC CONNECTION SETUP	
			COMPLETE	
205	$  \rightarrow$	•	CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
206	←	-	CM SERVICE REJECT	cause #17 (network failure).
207	←	-	RRC CONNECTION RELEASE	
208	→	•	RRC CONNECTION RELEASE	

None.

#### 9.4.3.4.5 Test requirement

1)

- 1.1 At step 8 the UE shall send a RRC CONNECTION REQUEST message and at step 11 the UE shall send a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;
- 1.2 At step 11 the UE shall not attempt a location updating procedure.

2)

- 2.1 At step 31 the UE shall send a RRC CONNECTION REQUEST message and at step 34 the UE shall send a CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the UE, Mobile Identity IE set to the TMSI which has been allocated to the UE;
- 2.2 At step 39 the UE shall not attempt a location updating procedure.
- 3) At step 51 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "periodic updating".
  - 3.1 At step 69 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal".
- 4) At step 103 the UE shall send a LOCATION UPDATING REQUEST message.
- 5) At step 132 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the UE, CKSN IE and LAI set to those which have been allocated to the UE and the Location Updating Type IE set to "IMSI attach".

- 5.1 At step 152 the UE shall send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating Type IE set to "normal".
- 6) At step 194 the UE shall send a LOCATION UPDATING REQUEST message.

# 9.4.4 Location updating / release / expiry of T3240

- 9.4.4.1 Definition
- 9.4.4.2 Conformance requirement

The UE receiving a LOCATION UPDATING ACCEPT message shall start T3240: it shall abort the RRC connection at the expiry of timer T3240.

#### References

TS 24.008 clauses 4.4.4.8 and 11.2.

9.4.4.3 Test purpose

To verify that the UE aborts the RRC-connection at the expiry of timer T3240.

9.4.4.4 Method of test

## Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell A.

## Related ICS/IXIT statements

None.

## **Test Procedure**

A normal location updating procedure is performed. The RRC-connection is not released by the SS within the timer T3240. It is checked that the UE aborts the RRC-connection.

Expected sequence

Step	Direction	Message	Comments
-	UE SS		
1	SS		The RF level of cell A is lowered until the UE selects cell B.Set the cell type of cell B to the "Serving cell"
			Set the cell type of cell A to the "non-suitable cell".
2	د		(NOTE1)
2	, ←	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$	LOCATION UPDATING	
		REQUEST	
6	÷	LOCATION UPDATING ACCEPT	
/	55		The SS waits 13240 expiry.
0	7	RELEASE REQUEST	Note(NOTE2): At the expiration of T3240, as per TS
			24.008. RR connection shall be aborted. In
			UMTS, UE cannot release RRC connection on
			its own. Instead, UE can send a Signalling
			Connection Release Request to the UTRAN,
			in order to initiate the release of RRC
0	6		Connection.
9 10		RRC CONNECTION RELEASE	Send only if RRC Connection Release is send
10	,	COMPLETE	
NOTE1:	The definitio	ns for "Serving cell" and "non-suitabl	e cell" are specified in TS 34.108 clause 6.1 "Reference
	Radio Cond	itions for signalling test cases only".	
NOTES	At the ever	ation of T2240, on por TS 24 009, DD	econoction shall be oborted in LIMTS LIE connet release
NUTEZ.	RRC conner	ation on its own Instead UF can ser	a Signalling Connection Release Request to the LITRAN
	in order to in	itiate the release of RRC connection	l.

Specific message contents

None.

9.4.4.5 Test requirement

At step 10 the UE shall abort the RRC connection.

- 9.4.5 Location updating / periodic
- 9.4.5.1 Location updating / periodic spread
- 9.4.5.1.1 Definition
- 9.4.5.1.2 Conformance requirement
  - 1) The UEs shall perform spreading of the time before performing a periodic location updating when the location updating timer value is reduced.
  - 2) The UE shall reset timer T3212 when the UE is deactivated, and shall start with a value between zero and the broadcasted value when reactivated in the same cell, IMSI attach being forbidden.
  - 3) When activated the UE shall start timer T3212 with a value randomly drawn in the allowed range.
  - NOTE: This conformance requirement is not covered by a test purpose. It is intended to be covered by a manufacturer declaration.

#### References

TS 24.008 clause 4.4.2.

#### 9.4.5.1.3 Test purpose

- 1) To check that when the location updating timer is reduced, the timer running in the UE is started with a value depending on the current timer value and the new broadcasted T3212 value.
- 2) To verify that when the UE is reactivated in the same cell (as the one in which it was deactivated), IMSI attach being forbidden, the UE starts the timer T3212 with a value between zero and the broadcasted value.

NOTE: It is not tested that the value is random.

9.4.5.1.4 Method of test

#### Initial conditions

- System Simulator:
  - one cell, T3212 is set to 30 minutes;
  - IMSI attach is allowed in the cell;
- User Equipment:
  - the UE is deactivated. The stored MCC, MNC and LAC correspond to the broadcasted values. The stored update status is "updated".

#### Related ICS/IXIT statements

None.

#### Test procedure

The UE is activated. It performs IMSI attach. 3 minutes after the end of the IMSI attach procedure, the value of T3212 is set to 6 minutes. The UE shall perform periodic location updating 6 minutes after the end of the IMSI attach procedure.

Then, the IMSI attach/detach is forbidden. T3212 is still set to 6 minutes.

The UE is deactivated. The UE is reactivated. It is checked that the UE performs a periodic location updating during the 6 minutes following activation.

Release 4	
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|--|

Step	Direction	Message	Comments
1			The LIE is activated
1			"Establishment equee": Degistration
2	7		Establishment cause . Registration.
3	<pre> </pre>	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
_		COMPLETE	
5	$\rightarrow$	LOCATION UPDATING	"location updating type": IMSI attach.
		REQUEST	
6	$\leftarrow$	LOCATION UPDATING ACCEPT	
7	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
8	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
9	SS		3 minutes after step 8 the value of T3212 is set to 6
, e			minutes
10	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration
10	,		This message shall be sent by the LIE between 5 minutes
			45 c and 6 minutes 15 c after stop 8
4.4			45 S and 6 minutes 15 S after step 6.
11			
12	7	RRC CONNECTION SETUP	
13	$\rightarrow$	LOCATION UPDATING	"location updating type": periodic updating.
	_	REQUEST	
14	<i>←</i>	LOCATION UPDATING ACCEPT	
15	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
16	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
17	SS		IMSI attach/detach is not allowed.
18	UE		The UE is deactivated.
19	UE		The UE is activated.
20	SS		The SS waits until the periodic location updating.
21	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.
			This message shall arrive during the 6 minutes following
			the UE activation
22	←	RRC CONNECTION SETUP	
22	`	RRC CONNECTION SETUP	
20	,		
24	<u>د</u>		"Location undating typo" - poriodic
24		DECHEST	
25			
20			Attention conding of this managers, the CO waits for the
26		KKU CUNNECTION RELEASE	After the sending of this message, the SS waits for the
07			disconnection of the main signalling link.
27		RRC CONNECTION RELEASE	
		COMPLETE	

None.

# 9.4.5.1.5 Test requirement

At step 10 the UE shall send an RRC CONNECTION REQUEST for a periodic location updating.

At step 21 the UE shall send an RRC CONNECTION REQUEST for a periodic location updating.

## 9.4.5.2 Location updating / periodic normal / test 1

- 9.4.5.2.1 Definition
- 9.4.5.2.2 Conformance requirement
  - 1 The UE shall stop and reset the timer T3212 of the periodic location updating procedure when the first MM message is received or SECURITY mode setting is completed in the case of MM connection establishment.
  - 2 The UE shall stop and reset the timer T3212 of the periodic location updating procedure when the UE has responded to paging and thereafter has received the first correct L3 message that is not an RRC message.

#### References

TS 24.008 clause 4.4.2.

## 9.4.5.2.3 Test purpose

To verify that the UE stops and resets the timer T3212 of the periodic location updating procedure when:

- the first MM-message is received in the case of MM-connection establishment, security mode being not set;
- the UE has responded to paging and the first correct L3 message that is not an RRC message is received.
- NOTE: T3212 is stopped when the MM-idle state is left and restarted when the MM sublayer returns to that state, substate NORMAL SERVICE or ATTEMPTING TO UPDATE. As a consequence, the exact time when T3212 is reset between those two events cannot be tested.

#### 9.4.5.2.4 Method of test

#### Initial conditions

- System Simulator:
  - 1 cell, default parameters;
  - IMSI attach/detach is not allowed;
  - the T3212 time-out value is 2/10 hour.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

### Related ICS/IXIT statements

#### None.

#### Test procedure

An UE originated MM connection is established and cleared. The RRC CONNECTION is released. It is checked that the UE performs a periodic location updating 12 minutes after the release of the RRC CONNECTION.

One minute after the periodic location updating, the UE is paged, it sends a RRC CONNECTION REQUEST message and the SS responds with an RRC CONNECTION SETUP message, a call is established and then cleared. It is checked that the UE performs a periodic location updating 12 minutes after the release of the link.

Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	UE		A MO CM connection is attempted.
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	÷	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
_		COMPLETE	
5	$\rightarrow$	CM SERVICE REQUEST	
6	← (	CM SERVICE REJECT	cause #17 (network failure).
7	<b>←</b>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	$\rightarrow$	RRC CONNECTION RELEASE	
9	SS		The SS waits until the periodic location updating.
10	→	RRC CONNECTION REQUEST	"Establishment cause": Registration. This message shall arrive between 11 minutes 45 s and 12 minutes 15 s after the last release of the RRC connection by the SS.
11	÷	RRC CONNECTION SETUP	
12	$\rightarrow$	RRC CONNECTION SETUP	
13	$\rightarrow$		"Location undating type" – periodic
10	,	REQUEST	Ecolution updating type - periodic.
14	÷	LOCATION UPDATING ACCEPT	
15	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
16	→	RRC CONNECTION RELEASE	
17	SS		The SS waits 1 minute.
18	÷	Mobile terminated establishment	See TS 34.108 clause 7.1.2
		of Radio Resource Connection	"Mobile identity" = IMSI.
			"Establishment cause": Terminating Conversational Call.
19	$\rightarrow$	PAGING RESPONSE	
20	< ·	AUTHENTICATION REQUEST	
21	$\rightarrow$		After the conding of this measure the CC weite for the
22	~	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
22	<u>ح</u>		disconnection of the main signalling link.
23			
24	22		The SS waits until the periodic location undating
25	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause". Registration
20	,		This message shall arrive between 11 minutes 45 s and
			12 minutes 15 s after the last release of the RRC
			connection by the SS.
26	←	RRC CONNECTION SETUP	
27	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
28	$\rightarrow$	LOCATION UPDATING	"Location updating type" = periodic.
		REQUEST	
29	←	LOCATION UPDATING ACCEPT	
30	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
31	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	

Specific message contents

None.

# 9.4.5.2.5 Test requirement

At step 10 the UE shall initiate an RRC CONNECTION REQUEST 12 minutes after the release of the RRC CONNECTION (at step 7).

#### Release 4

At step 25 the UE shall initiate an RRC CONNECTION REQUEST 12 minutes after the release of the RRC CONNECTION (at step 22).

# 9.4.5.3 Location updating / periodic normal / test 2

9.4.5.3.1 Definition

## 9.4.5.3.2 Conformance requirement

When a LOCATION UPDATING ACCEPT or a LOCATION UPDATING REJECT message is received, the timer T3212 is stopped and reset and the UE shall perform a periodic location updating after T3212 expiry.

## References

TS 24.008 clause 4.4.2.

9.4.5.3.3 Test purpose

To verify that the UE stops and resets the timer T3212 of the periodic location updating procedure when a LOCATION UPDATING ACCEPT message is received.

NOTE: T3212 is stopped when the MM-idle state is left and restarted when the MM sublayer returns to that state, substate NORMAL SERVICE or ATTEMPTING TO UPDATE. As a consequence, the exact time when T3212 is reset between those two events cannot be tested.

## 9.4.5.3.4 Method of test

#### Initial conditions

- System Simulator:
  - 2 cells, IMSI attach/detach is allowed in both cells;
  - T3212 is set to 6 minutes.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell A.

## Related ICS/IXIT statements

USIM removal possible while UE is powered Yes/No.

Switch off on button yes/No.

## Test procedure

A normal location updating is performed. The RRC CONNECTION is released. One minute later, the UE is deactivated, then reactivated in the same cell. It is checked that the UE performs an IMSI attach and a periodic location updating 6 minutes after the IMSI attach.

Expected sequence

Step	Direction	Message	Comments	
	UE SS			
1	SS		The following messages are sent and shall be received on cell B. The RF level of cell A is lowered until the UE selects cell B-Set the cell type of cell B to the "Serving cell".	
			Set the cell type of cell A to the "non-suitable cell". (NOTE)	
2	$\rightarrow$	RRC CONNECTION REQUEST	"establishment cause": Registration.	
3	←	RRC CONNECTION SETUP		
4	$\rightarrow$	RRC CONNECTION SETUP COMPLETE		
5	$\rightarrow$	LOCATION UPDATING REQUEST	"location updating type" = normal.	
6	←	LOCATION UPDATING ACCEPT		
7	<b></b>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
8	$\rightarrow$	RRC CONNECTION RELEASE		
9	SS		The SS waits until the periodic location updating.	
10	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
			minutes 15 s after the last release of the RRC connection	
11	4		by the SS.	
12	$\rightarrow$	RRC CONNECTION SETUP		
13	$\rightarrow$	LOCATION UPDATING REQUEST	"Location updating type" = periodic.	
14	←	LOCATION UPDATING ACCEPT		
15	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the	
			disconnection of the main signalling link.	
16	$\rightarrow$	RRC CONNECTION RELEASE COMPLETE		
17	UE		If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed. steps 18 to 23 may be performed or not depending on the action made in step	
18	$\rightarrow$	RRC CONNECTION REQUEST	"Establishmet cause": Detach	
19	-	RRC CONNECTION SETUP		
20	$\rightarrow$	RRC CONNECTION SETUP		
_		COMPLETE		
21	$\rightarrow$	IMSI DETACH INDICATION		
22	<ul><li>←</li></ul>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the	
			disconnection of the main signalling link.	
23	→ =	RRC CONNECTION RELEASE		
24	UE		Depending on what has been performed in step 17 the	
25	د		UE is brought back to operation.	
20				
20				
21				
28	$\rightarrow$		"Location updating type" = IMSL attach	
20		REQUEST		
29	←	LOCATION UPDATING ACCEPT		
30	<ul><li>←</li></ul>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.	
31	$\rightarrow$	RRC CONNECTION RELEASE		
32	SS		The SS waits until the periodic location updating.	
33	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
			This message shall arrive between 5 minutes 45 s and 6 minutes 15s after the last release of the RRC connection by the SS.	

Step	Direction	Message	Comments
	UE SS		
34	÷	RRC CONNECTION SETUP	
35	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
36	$\rightarrow$	LOCATION UPDATING	"Location updating type" = periodic.
		REQUEST	
37	←	LOCATION UPDATING ACCEPT	
38	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
39	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
NOTE:	The definitio	ns for "Serving cell" and "non-suitabl	e cell" are specified in TS 34.108 clause 6.1 "Reference
	Radio Condi	itions for signalling test cases only".	

None.

## 9.4.5.3.5 Test requirement

After step 28 the UE shall performs an IMSI attach.

After step 33 the UE shall performs periodic location updating 6 minutes after step 28.

- 9.4.5.4 Location updating / periodic HPLMN search for higher priority PLMN when in VPLMN
- 9.4.5.4.1 Location updating / periodic HPLMN search for higher priority PLMN / UE waits time T
- 9.4.5.4.1.1 Definition
- 9.4.5.4.1.2 Conformance requirement

 If the MS is in a VPLMN, the MS shall periodically attempt to obtain service on its HPLMN or higher priority PLMN listed in "user controlled PLMN selector" or "operator controlled PLMN selector".

2. In the case that the mobile has a stored "Equivalent PLMNs" list the mobile shall only select a PLMN if it is of a higher priority than those of the same country as the current serving PLMN which are stored in the "Equivalent PLMNs" list.

3. For this purpose, a value T minutes may be stored in the SIM. T is either in the range 6 minutes to 8 hours in 6 minute steps or it indicates that no periodic attempts shall be made. If no value is stored in the SIM, a default value of 60 minutes is used.

4. The attempts to access the HPLMN or higher priority PLMN shall be as specified below:

a) The periodic attempts shall only be performed in automatic mode when the MS is roaming;

b) After switch on, a period of at least 2 minutes and at most T minutes shall elapse before the first attempt is made;

c) The MS shall make an attempt if the MS is on the VPLMN at time T after the last attempt:

d) Periodic attempts shall only be performed by the MS while in idle mode;

e) If the HPLMN or higher priority PLMN is not found, the MS shall remain on the VPLMN;

f) In steps i), ii) and iii) the MS shall limit its attempts to access higher priority PLMNs to PLMNs of the same country as the current serving VPLMN; g) Only the priority levels of Equivalent PLMNs of the same country as the current serving VPLMN shall be taken into account to compare with the priority level of a selected PLMN.

When in automatic mode and roaming in the home country, the UE shall make an attempt to access the HPLMN, if the UE is on the VPLMN at time T after since the last attempt.

NOTE: This test is not intended to test every value in the range 6 minutes to 8 hours or the default of 30 minutes, but is intended to check that the mobile is capable of using the value stored on the USIM.

#### References

TS 22.011 clause 3.2.2.5. and TS 23.122 4.4.3.3.

## 9.4.5.4.1.3 Test purpose

To verify that when a cell of <u>a higher priority PLMN</u> the HPLMN becomes available, following the successful location request on <u>athe</u> VPLMN of the home country and after the first search the mobile has failed to find <u>a higher priority its</u> HPLMN, that the UE shall perform a location update request on <u>a higher priority the H</u>PLMN after time T. Were T is the HPLMN-Search Period stored in the USIM.

9.4.5.4.1.4 Method of test

#### Initial conditions

- System Simulator:
  - twofour cells A, and B, C and D, belonging to different location areas with location identification a, and b, c and d. Their country codes and mobile network codes are defined as follows:

<u>Cell</u>	MCC	MNC
<u>A</u>	<u>001</u>	<u>001</u>
<u>B</u>	<u>022</u>	<u>002</u>
<u>C</u>	<u>001</u>	<u>010</u>
D	<u>001</u>	<u>100</u>

Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cells A<mark>. B and C</mark> shall not be broadcasting. IMSI attach/detach is not allowed on eitherany of other cells.

- User Equipment:
  - the UE is switched off. The HPLMN Search Period on the USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".
  - The following USIM fields are configured:

USIM field	<b>Priority</b>	<b>PLMN</b>
EF _{HPLMNwAct}	1 st	<u>A</u>
<b>EF</b> PLMNwAcT	1 st	B
	2 nd	E
	1 st	C
	2 nd	D

# In the table PLMN X is the PLMN code from cell X (see above). PLMN E is defined as MCC=001, MNC=030.

## Related ICS/IXIT statements

Switch on/off button Yes/No.
#### **Test Procedure**

Only Cell **BD** shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell **BD**. The SS shall include the PLMN E in the list of equivalent PLMNs that is sent in the Location Update Accept message. Cells AB and C shall be made available after 8 minutes, thus ensuring the UE fails to find any higher priority the HPLMN during its first attempt. It is verified that the UE does not performed a location update request on Cell AB or C (waiting for at least, within 6 minutes after broadcasting of Cell A within 6 minutes after broadcasting of Cell A.

#### Expected sequence

Step	Direction	Message	Contents
	UE SS		
			The following messages shall be sent and received on
			Cell <mark>BD</mark> .
1	UE		The UE is switched on by either using the Power Switch
			or by applying power.
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.
3	←	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$	LOCATION UPDATING	"Location Update Type": Normal.
		REQUEST	
6	←	LOCATION UPDATING ACCEPT	
7	←	RRC CONNECTION RELEASE	After sending this message the SS waits for the
			disconnection of the main signalling link. The SS waits
			period of 8 minutes, this allowing the UE to make its fire
_			periodic search.
8	$\rightarrow$	RRC CONNECTION RELEASE	
~		COMPLETE	
<u>8a</u>	<u>88</u>		The SS waits a period of 8 minutes, this allowing the U
01			to make its first periodic search.
<u>80</u>	<u>88</u>		Set the cell type of cell B to the "Suitable neighbor cell"
			Set the cell type of cell C to the "Suitable neighbor cell"
			(NOTE) The CC shell weit for 7 minutes during which as
			The SS shall wall for 7 minutes during which ho
0	66		Cell A is made quailable. Set the cell type of cell A to the
9			"Suitable peighber cell"
			(NOTE) Within 6 minutes after step 9, the following messages
			shall be sent and received on Cell A
10	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration
11	-	RRC CONNECTION SETUP	
12	, →	RRC CONNECTION SETUP	
		COMPLETE	
13	$\rightarrow$	LOCATION UPDATING	"Location Update Type": normal.
		REQUEST	
14	←	LOCATION UPDATING ACCEPT	
15	←	RRC CONNECTION RELEASE	After sending this message the SS waits for the
-			disconnection of the main signalling link.
16	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
IOTE:	The definit	ions for "Suitable neighbor cell" are sr	pecified in TS 34.108 clause 6.1 "Reference Radio Condi
	for signallin	ng test cases only".	

Specific message contents

None.

9.4.5.4.1.5 Test requirement

At step 9, the UE shall not send any LOCATION UPDATING REQUEST on cell B or C.

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At step 13 the UE shall send a LOCATION UPDATING REQUEST message on Cell A.

- 9.4.5.4.2 Location updating / periodic HPLMN search for higher priority PLMN / UE in manual mode
- 9.4.5.4.2.1 Definition

#### 9.4.5.4.2.2 Conformance requirement

The periodic attempts shall only be performed if in automatic mode when the UE is in a VPLMN reaming in its home country.

#### References

TS 22.011 clause 3.2.2.5. and TS 23.122 clause 4.4.3.3.

9.4.5.4.2.3 Test purpose

To verify that no HPLMN-Search for Higher Priority PLMN is performed when the UE is not in automatic mode.

9.4.5.4.2.4 Method of test

#### Initial conditions

- System Simulator:
  - two cells A and B, belonging to different location areas with location identification a and b. Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cell A shall not be broadcasting. IMSI attach/detach is not allowed on either cell.
- User Equipment:
  - the UE is switched off. The HPLMN Search Period on the USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".

#### Related ICS/IXIT statements

Switch on/off button Yes/No.

#### Test Procedure

Only Cell B shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell B. The UE is forced into manual selection mode. Cell A is made available. It is verified that the UE does not attempt to perform a location update on Cell A.

Expected sequence

Step	Direction	Message	Contents	
	UE SS			
			The following messages shall be sent and received on	
			Cell B.	
1	UE		The UE is switched on by either using the Power Switch	
			or by applying power.	
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
3	÷	RRC CONNECTION SETUP		
4	$\rightarrow$	RRC CONNECTION SETUP		
		COMPLETE		
5	$\rightarrow$	LOCATION UPDATING	"Location Update Type": Normal.	
		REQUEST		
6	<del>~</del>	LOCATION UPDATING ACCEPT		
7	$\leftarrow$	RRC CONNECTION RELEASE	After sending this message the SS waits for the	
			disconnection of the main signalling link.	
8	$\rightarrow$	RRC CONNECTION RELEASE		
		COMPLETE		
9	UE		The UE is forced into manual selection mode.	
10	SS		Cell A is made available. Set the cell type of cell A to the	
			"Suitable neighbor cell".	
			(NOTE)	
11	SS		The SS waits a period of 6 minutes. During this time no	
			messages shall be received on Cell A.	
NOTE:	The definitions for "Suitable neighbor cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions			
	for signalling test cases only".			

#### Specific message contents

None.

#### 9.4.5.4.2.5 Test requirement

At step 11 the UE shall not attempt to perform a location update.

- 9.4.5.4.3 Location updating / periodic HPLMN search for higher priority PLMN / UE waits at least two minutes and at most T minutes
- 9.4.5.4.3.1 Definition
- 9.4.5.4.3.2 Conformance requirement

After switch on, the UE waits at least 2 minutes and at most T minutes before the first HPLMN-Search for higher priority PLMN is attempted.

#### References

TS 22.011 clause 3.2.2.5. and TS 23.122 4.4.3.3.

#### 9.4.5.4.3.3 Test purpose

To verify that the UE waits at least 2 minutes and at most T minutes before attempting its first HPLMN Search for higher priority PLMN.

#### 9.4.5.4.3.4 Method of test

#### Initial Conditions

- System Simulator:

- two cells A and B, belonging to different location areas with location identification a and b. Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cell A shall not be broadcasting. IMSI attach/detach is not allowed on either cell.
- User Equipment:
  - the UE is switched off. The HPLMN Search Period on the USIM shall be set to 6 minutes. The location area information on the USIM is "deleted".

#### Related ICS/IXIT statements

Switch on/off button Yes/No.

#### Test Procedure

Only Cell B shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell B. Cell A is made available. It is verified that the UE attempts to perform a location update on Cell A, after at least 2 minutes and at most T minutes have passed following power on.

#### Expected sequence

Step	Direction	Message	Contents	
	UE SS			
			The following messages shall be sent and received on	
			Cell B.	
1	UE		The UE is switched on by either using the Power Switch	
			or by applying power.	
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
3	←	RRC CONNECTION SETUP		
4	$\rightarrow$	RRC CONNECTION SETUP		
-		COMPLETE		
5	$\rightarrow$	LOCATION UPDATING	"Location Update Type": Normal.	
-	-	REQUEST		
6	←	LOCATION UPDATING ACCEPT		
7	←	RRC CONNECTION RELEASE	After sending this message the SS waits for the	
			disconnection of the main signalling link.	
8	$\rightarrow$	RRC CONNECTION RELEASE		
		COMPLETE		
9	SS		Cell A is made available. Set the cell type of cell A to the	
			"Suitable neighbor cell".	
			(NOTE)	
10	SS		The SS waits a period of 2 minutes after the UE is	
			switched on. During this time no messages shall be	
			received on Cell A. The following messages shall be se	
			and received on cell A. Within $\frac{1}{26}$ minutes after the UE	
			switched on the following messages shall be sent and	
			received on cell A.	
11	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration. This message sha	
			be sent between 2 and 6 minutes after step 1	
12	←	RRC CONNECTION SETUP		
13	$\rightarrow$	RRC CONNECTION SETUP		
		COMPLETE		
14	$\rightarrow$	LOCATION UPDATING	"Location Update Type": normal.	
		REQUEST		
15	←	LOCATION UPDATING ACCEPT		
16	←	RRC CONNECTION RELEASE	After sending this message the SS waits for the	
			disconnection of the main signalling link.	
17	$\rightarrow$	RRC CONNECTION RELEASE		
		COMPLETE		
IOTE:	The definition	ons for "Suitable neighbor cell" are sp	pecified in TS 34.108 clause 6.1 "Reference Radio Condit	
for signalling test cases only".				

#### Specific message contents

None.

#### 9.4.5.4.3.5 Test requirement

At step 11 the UE shall attempt to perform a location update.

## 9.4.6 Location updating / interworking of attach and periodic

#### 9.4.6.1 Definition

#### 9.4.6.2 Conformance requirement

- If the UE is in service state NO CELL AVAILABLE, LIMITED SERVICE, PLMN SEARCH or PLMN SEARCH-NORMAL SERVICE when the timer <u>T3212</u> expires the location updating procedure is delayed until this service state is left.
- 2) The T3212 time-out value shall not be changed in the NO CELL AVAILABLE, LIMITED SERVICE, PLMN SEARCH and PLMN SEARCH-NORMAL SERVICE states.
- 3) If the selected cell is in the location area where the UE is registered and IMSI ATTACH is not required and timer T3212 has not expired, then the state is NORMAL SERVICE.

#### References

- 1) TS 24.008 clause 4.4.2.
- 2) TS 24.008 clause 4.4.2.
- 3) TS 24.008 clause 4.2.1.1.

#### 9.4.6.3 Test purpose

- 1) To check that if the PLU timer expires while the UE is out of coverage, the UE informs the network of its return to coverage.
- 2) To check that the PLU timer is not disturbed by cells of forbidden PLMNs.
- 3) To check that if the PLU timer does not expire while out of coverage and if the mobile returns to the LA where it is updated, the UE does not inform the network of its return to coverage.

#### 9.4.6.4 Method of test

#### Initial conditions

- System Simulator:
  - two cells, a and b, of different PLMNs;
  - T3212 is set to 12 minutes on cell a;
  - T3212 is set to 6 minutes on cell b;
  - IMSI attach is allowed in both cells.
- User Equipment:
  - the UE is deactivated. The PLMN of cell b is entered in the USIM's forbidden PLMN list.

#### Related ICS/IXIT statements

None.

#### Test procedure

The UE is activated and placed in automatic network selection mode. It performs IMSI attach. 1 minute after the end of the IMSI attach procedure, cell a is switched off. The UE shall not location update on cell b. 8 minutes after the end of the IMSI attach procedure, cell a is switched on. The UE shall not location update on cell a before 11,75 minutes after the end of the IMSI attach procedure. The UE shall perform a periodic location update on cell a between 11,75 minutes and 12,25 minutes after the end of the IMSI attach procedure.

3 minutes after the end of the periodic location updating procedure, cell a is switched off. The UE shall not location update on cell b. 14 minutes after the end of the periodic location updating procedure, cell a is switched on and cell b is switched off. The UE shall perform a location update on cell a before 17 minutes after the end of the periodic location updating procedure.

Expected sequence

Step	Direction	Message	Comments	
			The following messages are sent and shall be received	
			on cell A	
1	UE		The UE is activated in automatic network selection mode.	
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.	
3	←	RRC CONNECTION SETUP		
4	$\rightarrow$	RRC CONNECTION SETUP		
		COMPLETE		
5	$\rightarrow$	LOCATION UPDATING	"location updating type": IMSI attach.	
		REQUEST		
6	←	LOCATION UPDATING ACCEPT		
7	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the	
			disconnection of the main signalling link.	
8	7			
0	22	COMPLETE	The SS waits 1 minute ofter step 9, call a is switched off	
9			The SS waits I minute after step 8., cell a is switched on	
			(NOTE)	
10	SS		The SS waits 8 minutes after step 8 - cell a is switched on	
10			Set the cell type of cell A to the "Serving cell".	
			(NOTE)	
11	$\rightarrow$	RRC CONNECTION REQUEST	This message shall be sent by the UE between 11	
			minutes 45s and 12 minutes 15s after step 68.	
12	÷	RRC CONNECTION SETUP		
13	$\rightarrow$	RRC CONNECTION SETUP		
		COMPLETE		
14	$\rightarrow$	LOCATION UPDATING	"location updating type": periodic.	
45				
15	←		After the conding of this massage the SS waits for the	
10		RRC CONNECTION RELEASE	disconnection of the main signalling link	
17	$\rightarrow$	BRC CONNECTION RELEASE		
	, í	COMPLETE		
18	SS		The SS waits 3 minutes after step 17cell a is switched	
			off	
			Set the cell type of cell A to the "Off cell".	
			(NOTE)	
19	SS		The SS waits 14 minutes after step 17., cell a is switched	
			On and cell b is switched off	
			Set the cell type of cell A to the Serving cell .	
			(NOTE)	
20	$\rightarrow$	RRC CONNECTION REQUEST	This message shall be sent by the LIF before 17 minutes	
20	, í		after step 17	
21	←	RRC CONNECTION SETUP		
22	$\rightarrow$	RRC CONNECTION SETUP		
		COMPLETE		
23	$\rightarrow$	LOCATION UPDATING	"Location updating type" = periodic.	
		REQUEST		
24	⊢ ←	LOCATION UPDATING ACCEPT		
25	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the	
00			disconnection of the main signalling link.	
20				
27	LIF		The UE shall not initiate an RRC connection	
			establishment. This is checked during 12 minutes.	
NOTE:	The definitio	ns for "Serving cell" and "Off cell" are	e specified in TS 34.108 clause 6.1 "Reference Radio	
	Conditions for signalling test cases only".			

## Specific message contents

None.

#### 9.4.6.5 Test requirement

- 1) At step 20 the UE shall send an RRC CONNECTION REQUEST and at step 23 the UE shall attempt to perform a location update.
- 2) At step 11 the UE shall send an RRC CONNECTION REQUEST and at step 14 the UE shall attempt to perform a location update.
- 3) At step 27 the UE shall not initiate an RRC connection during 12minutes.

## 9.5 MM connection

9.5.1 Introduction

[tbd]

## 9.5.2 MM connection / establishment in security mode

9.5.2.1 Definition

#### 9.5.2.2 Conformance requirement

- 1) The UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.
- 2) The UE shall be able to interpret security mode setting as acceptance of its CM service request i.e. send a CM message.

#### References

TS 24.008 clause 4.5.1.1.

#### 9.5.2.3 Test purpose

To verify that the UE can correctly set up an MM connection in an origination and interpret security mode setting as acceptance of its CM service request.

#### 9.5.2.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

#### Related ICS/IXIT statements

None.

#### **Test Procedure**

A mobile originating CM connection is initiated. After the UE has sent the CM SERVICE REQUEST message to the SS, an authentication procedure and a security mode setting procedure are performed. Then, the UE sends a CM message and the SS clears the call and releases the RRC CONNECTION.

#### Expected sequence

Step	Direction	Message	Comments
-	UE SS		
1	UE		A MO CM connection is attempted.
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	←	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$	CM SERVICE REQUEST	
6	←	AUTHENTICATION REQUEST	
7	$\rightarrow$	AUTHENTICATION RESPONSE	
8	←	SECURITY MODE COMMAND	
9	$\rightarrow$	SECURITY MODE COMPLETE	
A10	$\rightarrow$	SETUP	
A11	←	RELEASE COMPLETE	"Cause" IE: "unassigned number".
B10	$\rightarrow$	REGISTER	
B11	←	RELEASE COMPLETE	
C10	$\rightarrow$	CP-DATA	
C11	←	CP-ACK	
C12	←	CP-DATA	
C13	$\rightarrow$	CP-ACK	
14	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
15	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	

#### Specific message contents

None.

#### 9.5.2.5 Test requirement

At step 5 the UE shall send the CM SERVICE REQUEST message to the SS.

At step A10 or B10 or C10 the UE shall send a CM message and the SS shall release the RRC connection (step 14).

## 9.5.3 MM connection / establishment in non-security mode

9.5.3.1 Definition

#### 9.5.3.2 Conformance requirement

Upon reception of the CM SERVICE ACCEPT message, the UE shall send a CM message.

#### References

TS 24.008 clause 4.5.1.1.

#### 9.5.3.3 Test purpose

To verify that the UE can correctly set up an MM connection in an originating CM connection establishment when security mode setting is not required.

#### 9.5.3.4 Method of test

#### Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

#### Related ICS/IXIT statements

None.

#### **Test Procedure**

A mobile originating CM connection is attempted. The MM-connection is established without invoking the security mode setting procedure.

Then, the UE sends a CM message and the SS releases the RRC CONNECTION.

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	UE		A MO CM connection is attempted.
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	<ul><li>←</li></ul>	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$	CM SERVICE REQUEST	
6	←	CM SERVICE ACCEPT	
A7	$\rightarrow$	SETUP	
B7	$\rightarrow$	REGISTER	
C7	$\rightarrow$	CP-DATA	
C8	←	CP-ACK	
C9	←	CP-DATA	
C10	$\rightarrow$	CP-ACK	
11	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
12	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	

#### Specific message contents

None.

#### 9.5.3.5 Test requirement

At step 5 the UE shall send the CM SERVICE REQUEST message to the SS.

At step A7 or B7 or C7 the UE shall send a CM message and the SS shall release the RRC connection (step 12).

## 9.5.4 MM connection / establishment rejected

- 9.5.4.1 Definition
- 9.5.4.2 Conformance requirement

Upon reception of a CM SERVICE REJECT message, the UE shall not send any layer 3 message, start timer T3240 and enter the "wait for network command" state.

#### References

TS 24.008 clause 4.5.1.1.

#### 9.5.4.3 Test purpose

To verify that the UE does not send a layer 3 message when the service request is rejected by the SS.

#### Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

#### Related ICS/IXIT statements

None.

#### Test Procedure

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS responds with a CM SERVICE REJECT message with reject cause "requested service option not subscribed". It is checked that the UE does not send a layer 3 message.

#### Expected sequence

Step	Direc	tion	Message	Comments
	UE	SS		
1	U	E		A MO CM connection is attempted
2		<b>&gt;</b>	RRC CONNECTION REQUEST	
3	←	-	RRC CONNECTION SETUP	
4		<b>&gt;</b>	RRC CONNECTION SETUP	
			COMPLETE	
5		<b>&gt;</b>	CM SERVICE REQUEST	
6		-	CM SERVICE REJECT	"Reject cause" IE: "requested service option not
				subscribed".
7	S	S		The UE shall not send a layer 3 message. This is
				checked during 5 s.
8		-	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
				disconnection of the main signalling link.
9		<b>&gt;</b>	RRC CONNECTION RELEASE	
			COMPLETE	

#### Specific message contents

None.

#### 9.5.4.5 Test requirement

The UE shall attempt MO CM connection (step 1).

At step 7 the UE shall not send a layer 3 message and at step 9 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

## 9.5.5 MM connection / establishment rejected cause 4

9.5.5.1 Definition

#### 9.5.5.2 Conformance requirement

- 1) The UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.
- 2) The UE, when receiving a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR" shall wait for the network to release the RRC connection.
- 3) The UE shall then be able to perform a location updating procedure.

#### References

TS 24.008 clause 4.5.1.1.

#### 9.5.5.3 Test purpose

To verify that the UE can correctly accept a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR".

#### 9.5.5.4 Method of test

#### Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

#### Related ICS/IXIT statements

None.

#### **Test Procedure**

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS responds with a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR". On receipt of this message, the UE shall delete any TMSI, LAI, cipher key and cipher key sequence number. The RRC CONNECTION is released. It is checked that the UE performs a normal location updating procedure.

#### Expected sequence

Step	Direction	Message	Comments
-	UE SS	]	
1	UE		A MO CM connection is attempted.
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	÷	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
5	$\rightarrow$		CKSN – initial value, Mobile identity – TMSI
6	é		"Reject cause" – "IMSL unknown in VLR"
7	<		After the sending of this message, the SS waits for the
'	Ň		disconnection of the main signalling link.
8	$\rightarrow$	RRC CONNECTION RELEASE	
0			"Establishment equas": Desistration
9			Establishment cause . Registration.
10		RRC CONNECTION SETUP	
	7	COMPLETE	
12	<i>→</i>	LOCATION UPDATING REQUEST	"Ciphering key sequence number" = "No key is available". "Mobile identity" = IMSI. "Location area identification" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).
13	÷	AUTHENTICATION REQUEST	
14	$\rightarrow$	AUTHENTICATION RESPONSE	
14a	÷	SECURITY MODE COMMAND	
14b	$\rightarrow$	SECURITY MODE COMPLETE	
15	÷	LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI.
16	$\rightarrow$		
17	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
18	$\rightarrow$	RRC CONNECTION RELEASE	

#### Specific message contents

None.

#### 9.5.5.5 Test requirement

- 1) The UE shall attempt MO CM connection (at step 1) and at step 5 the UE shall send a CM SERVICE REQUEST message with CKSN information element as stored in the USIM and Mobile Identity information element set to the TMSI.
- 2) At step 6 the SS should send a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR", and at step 8 the UE shall send an RRC CONNECTION RELEASE message.
- 3) At step 12 the UE send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "deleted LAI".

## 9.5.6 MM connection / expiry T3230

#### 9.5.6.1 Definition

9.5.6.2 Conformance requirement

At T3230 expiry (i.e. no response is given but an RRC connection is available) the MM connection establishment shall be aborted.

#### References

TS 24.008 clauses 4.5.1.2 and 11.2.

#### 9.5.6.3 Test purpose

To verify that at T3230 expiry, the UE aborts the MM-connection establishment.

9.5.6.4 Method of test

#### Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

#### Related ICS/IXIT statements

None.

#### **Test Procedure**

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS waits for expiry of timer T3230. It is checked that the UE send a MM STATUS message and waits for the release of the RRC-connection.

#### Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	U	E		A MO CM connection is attempted.
2	-	<b>&gt;</b>	RRC CONNECTION REQUEST	
3	<		RRC CONNECTION SETUP	
4	-	>	RRC CONNECTION SETUP	
			COMPLETE	
5	-	>	CM SERVICE REQUEST	
6	S	S		The SS waits for expiry of timer T3230.
7	<		CM SERVICE ACCEPT	
8	-	<b>&gt;</b>	MM STATUS	"Reject cause" IE is "message type not compatible with
				protocol state".
9	<		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
				disconnection of the main signalling link.
10		<b>&gt;</b>	RRC CONNECTION RELEASE	
			COMPLETE	

#### Specific message contents

None.

9.5.6.5 Test requirement

The UE shall attempt MO CM connection (step 1).

At step 8 the UE shall send a MM STATUS message.

## 9.5.7 MM connection / abortion by the network

- 9.5.7.1 MM connection / abortion by the network / cause #6
- 9.5.7.1.1 Definition
- 9.5.7.1.2 Conformance requirement
  - 1) Upon reception of an ABORT message, the UE shall release any ongoing MM connection and enter the "wait for network command" state.
  - 2) If the cause in the ABORT message was cause #6, the UE shall:
    - 2.1 not perform normal location updating;
    - 2.2 not perform periodic location updating;
    - 2.3 not respond to paging with TMSI;
    - 2.4 reject any request for Mobile Originating call establishment except Emergency call;
    - 2.5 not perform IMSI detach if deactivated.
  - After reception of an ABORT message with cause #6, the UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call".
  - 4) After reception of an ABORT message with cause #6, the UE shall delete the stored LAI, CKSN and TMSI.

#### Reference(s)

TS 24.008 clause 4.3.5.

#### 9.5.7.1.3 Test purpose

To check that upon reception of an ABORT message with cause #6 during call establishment:

- the UE does not send any layer 3 message;
- after reception of an ABORT message and after having been deactivated and reactivated, the UE performs location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN;
- the UE does not perform location updating, does not answer to paging with TMSI, rejects any request for mobile originating call except emergency call, does not perform IMSI detach;
- the UE accepts a request for emergency call.

9.5.7.1.4 Method of test

#### **Initial Conditions**

- System Simulator:
  - 2 cells, default parameters.
- User Equipment:
  - the UE has a valid TMSI, CKSN and CK, IK. It is "idle updated" on cell B.

#### Related ICS/IXIT Statement(s)

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

#### Test procedure

A mobile originating CM connection is attempted. Upon reception of the AUTHENTICATION RESPONSE message, the SS sends an ABORT message with cause #6. The SS waits for 5 s. The UE shall not send any layer 3 message. The SS releases the RRC connection.

The SS checks that the UE has entered the state MM IDLE substate NO IMSI, i.e. does not perform normal location updating, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if deactivated.

#### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
The follo	wing messag	ges are sent and shall be received or	n cell B
1	UE		A mobile originating CM connection is attempted.
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	←	RRC CONNECTION SETUP	
4	, ,		
4			
-			
5	7	CM SERVICE REQUEST	
6	←	AUTHENTICATION REQUEST	
_			
7	$\rightarrow$	AUTHENTICATION RESPONSE	
8	←	ABORT	"reject cause" = #6.
9	SS		The SS waits for 5 s.
10	UE		The UE shall not send any layer 3 message during that
			time.
11	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link
12	<u>د</u>		
12			
<b>T</b> I ( II			
The folic	wing messag	ges are sent and shall be received or	n cell A.
13	55		The RF levels are changed to make the UE reselect cell
			A.Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "non-suitable cell".
			(NOTE)
14	UE		The UE performs cell reselection according to procedure
			as specified in (this however is not checked until step 27).
			The UE shall not initiate an RRC connection
			establishment on cell A or on cell B.
15	SS		The SS waits at least 7 minutes for a possible periodic
10	00		
16			The LIE shall not initiate an PPC connection
10	UE		
47			
1/	- ←	PAGING TYPE 1	
			Paging Cause: Terminating Conversational Call.
18	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B. This is verified
			during 3 s.
19	UE		A MO CM connection is attempted.
20	UE		The UE shall not initiate an RRC connection
-			establishment on cell A or on cell B. This is checked
			during 3 s
21			If the LIE supports speech (see ICS) an emergency call
<u> </u>	02		lis attempted
22	_ ا		"Establishment cause": Emergeney cell
22			Establishment cause . Emergency call.
23			
24	→	RKC CONNECTION SETUP	
		COMPLETE	
25	$  \rightarrow$	CM SERVICE REQUEST	"CM service type": Emergency call establishment.
26	←	CM SERVICE ACCEPT	

Step	Direction	Message	Comments
	UE SS		
27	$\rightarrow$	EMERGENCY SETUP	
28	←	RELEASE COMPLETE	"Cause" = unassigned number.
29	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
30	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
31	UE		If possible (see ICS) USIM detachment is performed.
			Otherwise if possible (see ICS) switch off is performed.
			Otherwise the power is removed.
32	UE		The UE shall not initiate an RRC connection
			establishment on cell A or on cell B. This is checked
			during 3 s.
33	UE		Depending on what has been performed in step 31 the
			UE is brought back to operation.
34	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.
35	←	RRC CONNECTION SETUP	
36	7		
27	_		"leastion undefine type" normal "CKON" no key
37	7		location updating type = normal, CKSN = no key
		REQUEST	(the MCC and MNC hold the previous values, the LAC is
			(the MCC and MNC hold the previous values, the LAC is coded EEEE)
38	←	AUTHENTICATION REQUEST	CKSN' = CKSN1
39	$\rightarrow$	AUTHENTICATION RESPONSE	
40	÷	LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.
41	$\rightarrow$	TMSI REALLOCATION	
		COMPLETE	
42	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the
			disconnection of the main signalling link.
43	$\rightarrow$	RRC CONNECTION RELEASE	
		COMPLETE	
NOTE:	The definition	ns for "Serving cell" and "non-suitabl	e cell" are specified in TS 34,108 clause 6,1 "Reference

NOTE: The definitions for "Serving cell" and "non-suitable cell" are specified in TS 34.108 clause 6.1 "Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

#### 9.5.7.1.5 Test requirement

1) At step 10 the UE shall not send any layer 3 message and at step 12 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

2)

- 2.1 At step 14 the UE shall not initiate an RRC connection establishment (not perform normal location updating).
- 2.2 At step 16 the UE shall not initiate an RRC connection establishment.(not perform periodic location updating).
- 2.3 At step 18 the UE shall not initiate an RRC connection establishment (not respond to paging with TMSI).
- 2.4 At step 20 the UE shall not initiate an RRC connection establishment (reject any request for Mobile Originating call establishment).
- 2.5 At step 32 the UE shall not initiate an RRC connection establishment.(not perform IMSI detach).
- 3) At step 22 the UE shall send an RRC CONNECTION REQUEST message with the establishment cause set to "emergency call".
- 4) At step 37 the UE send a LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "deleted LAI".

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#### 9.5.7.2 MM connection / abortion by the network / cause not equal to #6

- 9.5.7.2.1 Definition
- 9.5.7.2.2 Conformance requirement

Upon reception of an ABORT message, the UE shall release any ongoing MM connection and enter the "wait for network command" state.

#### Reference(s)

TS 24.008 clause 4.3.5.

#### 9.5.7.2.3 Test purpose

To check that when multiple MM connections are established, the UE releases all MM connections upon reception of an ABORT message, in the case when the two MM connections are established for a mobile terminating call and a non call related supplementary service operation.

9.5.7.2.4 Method of test

#### **Initial Conditions**

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE is in state U10 of a mobile terminating call.

#### Related ICS/IXIT Statement(s)

The UE supports a non call related supplementary service operation during an active call Yes/No.

#### Test procedure

A non call related supplementary service operation is attempted at the UE. Upon reception of the REGISTER message, the SS sends an ABORT message with cause # 17. The SS sends a DISCONNECT using the TI of the mobile terminating call. Upon reception of the RELEASE message, the SS send a RELEASE COMPLETE message with the PD and TI of the DISCONNECT message and with cause #81. The SS releases the RRC connection.

#### **Expected Sequence**

This procedure is performed if the UE supports non call related supplementary service operation.

Step	Direction	Message	Comments
	UE SS	_	
1	UE		A non call related supplementary service operation is attempted at the UE.
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Originating Background Call.
3	←	RRC CONNECTION SETUP	
4	$\rightarrow$	RRC CONNECTION SETUP	
		COMPLETE	
5	$\rightarrow$	CM SERVICE REQUEST	
6	<i>←</i>	CM SERVICE ACCEPT	
7	$\rightarrow$	REGISTER	
8	←	ABORT	"reject cause" = #17.
9	←	DISCONNECT	with the TI of the mobile terminating call.
9a	$\rightarrow$	RELEASE	
10	←	RELEASE COMPLETE	"cause" = #81. Same PD and TI as the DISCONNECT
			message.
11	<b>←</b>	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link
12	$\rightarrow$	RRC CONNECTION RELEASE	

#### Specific message contents

None.

#### 9.5.7.2.5 Test requirement

At step 10 the SS shall send a RELEASE COMPLETE message and at step 12 the UE shall send an RRC CONNECTION RELEASE COMPLETE message.

## 9.5.8 MM connection / follow-on request pending

9.5.8.1 MM connection / follow-on request pending / test 1

9.5.8.1.1 Definition

#### 9.5.8.1.2 Conformance requirement

The UE shall not attempt to establish a new MM connection after location updating on the same RRC connection if not allowed by the network.

#### Reference(s)

TS 24.008 clause 4.4.4.6.

#### 9.5.8.1.3 Test purpose

To check that when the network does not include the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has a CM application request pending does not attempt to establish a new MM connection on that RRC connection.

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#### 9.5.8.1.4 Method of test

#### **Initial Conditions**

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

#### Related ICS/IXIT Statement(s)

None.

#### Test procedure

The UE is activated and a CM connection is attempted during the location updating procedure. The SS does not include the follow on proceed information element in the LOCATION UPDATING ACCEPT message. The SS waits for at least 8 s. The UE shall not send any layer 3 message for 8 s.

#### Expected Sequence

Step	Direction	Message	Comments			
	UE SS					
1	UE		The UE is activated.			
2	→ RRC CONNECTION REQUEST		"Establishment cause": Registration.			
3	← RRC CONNECTION SETUP					
4	$\rightarrow$	RRC CONNECTION SETUP				
		COMPLETE				
5	→ LOCATION UPDATING		location updating type = IMSI attach.			
	REQUEST		en the SS waits for 15 s. During this delay a CM			
			connection is attempted.			
6	← LOCATION UPDATING ACC		follow on proceed IE not included.			
7	SS		The SS wait for at least 8 s.			
8	UE		The UE shall not send any layer 3 message for 8 s after			
			reception of the LOCATION UPDATING ACCEPT			
			message.			
9	← RRC CONNECTION RELEASE After the sending of this me		After the sending of this message, the SS waits for the			
			disconnection of the main signalling link.			
10	$\rightarrow$	RRC CONNECTION RELEASE				
		COMPLETE				

#### Specific message contents

None.

#### 9.5.8.1.5 Test requirement

After step 8 the UE shall not send any layer 3 messages.

#### 9.5.8.2 MM connection / follow-on request pending / test 2

9.5.8.2.1 Definition

#### 9.5.8.2.2 Conformance requirement

A UE supporting the follow-on request procedure and having a CM connection request pending shall correctly establish an MM connection following a location update when allowed by the network.

#### Reference(s)

TS 24.008 clause 4.4.4.6.

#### 9.5.8.2.3 Test purpose

To check that when the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that supports the follow on request procedure and that has a CM application request pending establishes successfully a new MM connection on that RRC connection.

#### 9.5.8.2.4 Method of test

#### **Initial Conditions**

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

#### Related ICS/IXIT Statement(s)

UE supports the follow on request procedure Yes/No.

#### Test procedure

The UE is activated and a CM connection is attempted during the location updating procedure. The SS includes the follow on proceed information element in the LOCATION UPDATING ACCEPT message. The SS waits for at least 8 s.

If the UE supports the follow on request procedure:

- the UE shall send a CM SERVICE REQUEST. Upon reception of that message, the SS sends a CM SERVICE ACCEPT message. The UE shall send an initial CM message. Upon reception of that message, the SS releases the RRC connection.

If the UE does not support the follow on request procedure:

- the UE shall not send any layer 3 message for 8 seconds.

Expected Sequence

Step	Direction	Message	Comments		
	UE SS				
1	UE		The UE is activated.		
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.		
3	←	RRC CONNECTION SETUP			
4	$\rightarrow$	RRC CONNECTION SETUP			
		COMPLETE			
5	$\rightarrow$	LOCATION UPDATING	Location updating type = IMSI attach.		
		REQUEST	Then the SS waits for 15 s. During this delay a CM		
			connection is attempted.		
6	←	LOCATION UPDATING ACCEPT	follow on proceed IE included.		
			If the UE supports the follow on request procedure (see		
			ICS) steps A7 to A9 are performed, otherwise steps B7		
			to B8 are performed.		
A7	→ CM SERVICE REQUEST				
A8	←	CM SERVICE ACCEPT			
A9	$\rightarrow$	An initial CM message			
B7	SS		The SS wait for at least 8 s.		
B8	UE		The UE shall not send any layer 3 message for 8 s after		
			reception of the LOCATION UPDATING ACCEPT		
			message.		
10	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the		
1			disconnection of the main signalling link.		
11	$\rightarrow$	RRC CONNECTION RELEASE			
		COMPLETE			

#### Specific message contents

None.

#### 9.5.8.2.5 Test requirement

After step 6:

The UE shall send a CM SERVICE REQUEST if the UE supports the follow on request procedure.

The UE shall not send any layer 3 message if the UE does not support the follow on request procedure.

#### 9.5.8.3 MM connection / follow-on request pending / test 3

9.5.8.3.1 Definition

#### 9.5.8.3.2 Conformance requirement

- 1) The UE shall not set the follow on proceed IE in a LOCATION UPDATING REQUEST message if no MM connection request is pending.
- 2) When the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has no CM application request pending shall not attempt to establish a new MM connection on that RRC connection.
- 3) The UE shall correctly handle a CM connection established by the network on the RRC connection that was used for the location updating procedure.

#### Reference(s)

TS 24.008 clause 4.4.4.6.

#### 9.5.8.3.3 Test purpose

- 1) To check that a UE that has no CM application request pending sets the follow on proceed IE to No follow-on request pending in a LOCATION UPDATING REQUEST message.
- 2) To check that when the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has no CM application request pending does not attempt to establish a new MM connection on that RRC connection.
- 3) To check that the UE accepts establishment by the network of a new MM connection on the existing RRC connection.

9.5.8.3.4 Method of test

#### **Initial Conditions**

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

#### Related ICS/IXIT Statement(s)

Supported services on TCH.

#### Test procedure

The UE is activated. The UE performs location updating. The UE shall set the follow on proceed IE to No follow-on request pending in the LOCATION UPDATING REQUEST message. The SS includes the follow on proceed IE in the LOCATION UPDATING ACCEPT message. The SS waits for 5 s. The UE shall not send any layer 3 message for 5 s. The SS sends a SETUP message to the UE requesting a basic service supported by the UE. The UE shall send either a CALL CONFIRMED message if it supports a service on TCH or a RELEASE COMPLETE with cause #88.

#### Expected Sequence

Step	Direction	Message	Comments		
	UE SS				
1	UE		The UE is activated.		
2	$\rightarrow$	RRC CONNECTION REQUEST	"Establishment cause": Registration.		
3	←	RRC CONNECTION SETUP			
4	$\rightarrow$	RRC CONNECTION SETUP COMPLETE			
5	$\rightarrow$	LOCATION UPDATING REQUEST	"Location updating type" = IMSI attach. The FOR bit is set to No follow-on request pending.		
6	÷	LOCATION UPDATING ACCEPT	follow on proceed IE is included.		
7	SS		The SS wait for 5 s.		
8	UE		The UE shall not send any layer 3 message for 5 s after reception of the LOCATION UPDATING ACCEPT message.		
9	÷	SETUP			
A10	$\rightarrow$	CALL CONFIRMED	If the UE supports a basic service on TCH.		
			If the UE does not support any basic service on TCH.		
B10	$\rightarrow$	RELEASE COMPLETE	cause #88.		
11	÷	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.		
12	$\rightarrow$	RRC CONNECTION RELEASE			

Specific message contents

None.

9.5.8.3.5 Test requirement

At step 8 the UE shall not send any layer 3 message.

After step 9:

The UE shall send CALL CONFIRMED message if the UE supports a basic service on TCH.

The UE shall send RELEASE COMPLETE message if the UE does not support a basic service on TCH.

T1-020062

T1S-020006r4

# 3GPP TSG-T1 Sig Meeting #21 Sophia Antipolis, France, 18th – 20th February 2002

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Case 2.

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 11.1.3.2 Collision of UE initiated and network requested PDP context activation

#### 11.1.3.2.1 Definition

This test needs to take into account the number of PDP contexts supported by the UE, to be able to test the response when the network tries to initiate a new context.

#### 11.1.3.2.2 Conformance requirement

A collision of a UE initiated and a network requested PDP context activation procedure is identified by the UE if a REQUEST PDP CONTEXT ACTIVATION message is received from the network after the UE has sent an ACTIVATE PDP CONTEXT REQUEST message, and the UE has not yet received an ACTIVATE PDP CONTEXT ACCEPT or ACTIVATE PDP CONTEXT REJECT message.

- NOTE:
   In general, the UE is unable to test if the PDP type, PDP address and APN in the REQUEST PDP

   CONTEXT ACTIVATION message are the same as those for the PDN to which it is attempting to activate a context. This is because the UE may have omitted one or more of the parameters in the ACTIVATE PDP CONTEXT REQUEST message, since it is relying on default values to be provided by the network.
  - In the case of such a collision, the UE initiated PDP context activation shall take precedence over the
    network requested PDP context activation. If the UE is able to compare the PDP type, PDP address and APN
    requested in the ACTIVATE PDP CONTEXT REQUEST message with those requested in the REQUEST
    PDP CONTEXT ACTIVATION message and these parameters are equal, then the UE shall discard the
    REQUEST PDP CONTEXT ACTIVATION message and shall wait for the network response to its
    ACTIVATE PDP CONTEXT REQUEST message. If the UE is not able to compare the PDP type, PDP
    address, and APN requested in the ACTIVATE PDP CONTEXT REQUEST message with those requested in
    the REQUEST PDP CONTEXT ACTIVATION message, then the UE shall send a REQUEST PDP
    CONTEXT ACTIVATION REJECT message with the cause 'insufficient resources' to the network, and wait
    for an ACTIVATE PDP CONTEXT ACCEPT message.

#### Reference

3GPP TS 24.008 clause 6.1.3.1.5 b), case: Static PDP address collision detected within the UE.

#### 11.1.3.2.3 Test purpose

To test the behaviour of the UE when there is a collision between an UE initiated and network requested PDP context activation detected by the UE.

#### 11.1.3.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

yes/no

#### Related ICS/IXIT statements

- PS Supported
- Network requested PDP context activation supported yes/no

- Method of PDP context activation

#### Case 1

For an UE that supports PDP context activation requested by the network.

#### Test procedure

A PDP context activation is requested by the user with a static PDP address. After receipt of the ACTIVATE PDP CONTEXT REQUEST message the SS sends a REQUEST PDP CONTEXT ACTIVATION message followed by an ACTIVATE PDP CONTEXT ACCEPT message in a time less than T3380 (Use T3380/2). The UE shall send no messages within this time.

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	UE		Initiate a context activation
2	$\rightarrow$	ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation <u>(with</u> static PDP address)
3	÷	REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation request
4	SS		Wait for T3380/2 seconds to ensure UE does not re-send ACTIVATE PDP CONTEXT REQUEST
5	÷	ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation

#### Case 2

For a UE that does not support PDP context activation requested by the network.

#### Test procedure

A PDP context activation is requested by the user. After receipt of the ACTIVATE PDP CONTEXT REQUEST message the SS sends a REQUEST PDP CONTEXT ACTIVATION message. The UE shall send a REQUEST PDP CONTEXT ACTIVATION REJECT message with cause set to 'insufficient resources' or 'feature not supported'. The SS then sends an ACTIVATE PDP CONTEXT ACCEPT.

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	UE		Initiate a context activation
2	$\rightarrow$	ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3	÷	REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation
4	$\rightarrow$	REQUEST PDP CONTEXT ACTIVATION REJECT	Cause set to 'insufficient resources' or 'feature not supported'.
5	÷	ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation

#### Specific message contents

For Case 1 and Case 2:

Step 2: ACTIVATE PDP CONTEXT REQUEST message contains PDP address and APN IEs.

Step 3: REQUEST PDPD CONTEXT ACTIVATION message contains the same PDP address and APN values as in Step 2.

None.

11.1.3.2.5 Test requirements

In the case of such collision,

- UE that supports PDP context activation requested by the network shall discard the REQUEST PDP CONTEXT ACTIVATION message from SS and wait for an ACTIVATE PDP CONTEXT ACCEPT message.
- UE that does not support PDP context activation requested by the network shall reject PDP context activation initiated by the SS.

## 3GPP TSG-T1 Meeting #14 Sophia, France, 21 – 22 February 2002

## *Tdoc TSG T1-020061*

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		<b>C</b> (tun	ctional mo	dification o	of featu	re)			R98	(Rele	ase 1998)	
		D (ear	torial mod	fication)					R99	(Rele	ase 1999)	
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**Consequences if * Test procedures will not be defined for the TDD 1.28 Mcps and 3.84 Mcps options. not approved:** 

Clauses affected:	¥ 8.2
Other specs affected:	<ul> <li>Conter core specifications</li> <li>TS 34.123-2</li> <li>Test specifications</li> <li>O&amp;M Specifications</li> </ul>
Other comments:	* This Test case is applicable to Release 99 and Release 4

#### 8.1.2.4 RRC Connection Establishment: Reject ("wait time" is not equal to 0)

#### 8.1.2.4.1 Definition

#### 8.1.2.4.2 Conformance requirement

- 1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be sent on the uplink CCCH.
- 2. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and neither IE "frequency info" nor IE "system info" is present, the UE shall wait for a period specified in the IE "wait time". Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.
- 3. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and either IE "frequency info" or IE "system info" is available in the message, the UE shall attempt to perform cell reselection using these information. Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.4.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" lapses, if the UE receives an RRC CONNECTION REJECT message which includes the IE "wait time" not set to 0.

To confirm that the UE performs a cell reselection when receiving an RRC CONNECTION REJECT message, containing relevant frequency information of the target cell to be re-selected.

#### 8.1.2.4.4 Method of test

#### **Initial Condition**

System Simulator: 2 cells – both cell 1 and cell 2 are active and suitable for camping, but cell 1 is transmitted using a larger power. Cell 1 and cell 2 are being transmitted from different 2 UARFCNs. The transmission power of cell 2 is 15 dB smaller than cell 1.

Parameter	Unit	Cell 1	Cell 2
UTRA RF		Ch. 1	Ch. 2
Channel			
Number			
CPICH Ec	dBm <u>/</u>	-60	-75
(FDD)	3.84		
	MHz		
P-CCPCH	<u>dBm</u>	<u>-60</u>	<u>-75</u>
<u>(TDD)</u>			

#### Table 8.1.2.4

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation in cell 1. SS rejects the first request by transmitting an RRC CONNECTION REJECT message which

indicates a non-zero wait time. In this message, frequency information for cell 2 is available. SS then waits for RRC CONNECTION REQUEST message on the uplink CCCH of cell 2. SS will also monitor the uplink of cell 1 simultaneously to ensure that all transmission activities from cell 1 have ceased. When the UE has successfully camp onto cell 2, it shall send an RRC CONNECTION REQUEST with the same establishment cause as its previous attempt in cell 1. SS responds with an RRC CONNECTION REJECT message, indicating a non-zero "wait time" and omitting the IE "Redirection Info". The UE shall observe the wait time period indicated. After the wait time has elapsed, the UE shall re-transmit RRC CONNECTION REQUEST again. Finally, SS transmits an RRC CONNECTION SETUP message to establish an RRC connection with the UE, and the UE replies with an RRC CONNECTION SETUP COMPLETE message and enters CELL_DCH state.

#### Expected sequence

Step	Direction		p Direction		Direction Message		Message	Comment		
-	UE SS									
1	-	>	RRC CONNECTION REQUEST	SS prompts the operator to make an outgoing call in cell 1.						
2	÷		RRC CONNECTION REJECT	This message shall includes the IE "wait time" set to 15 seconds and IE "frequency info" set to the UARFCN of cell 2.						
3				SS waits for a period of time sufficient for UE to reselect to cell 2. At the same time, it monitors the uplink of cell 1 to make sure that all transmissions have ceased.						
4	→ 		RRC CONNECTION REQUEST	UE shall attempt to re-start an RRC connection establishment procedure in cell 2. The establishment cause shall remain unchanged.						
5	÷		RRC CONNECTION REJECT	This message shall include the IE "wait time" set to 15 seconds, but with IE "Redirection Info" absent.						
6	-	>	RRC CONNECTION REQUEST	SS waits until the duration specified in IE "wait time" has elapsed and then listens to the uplink CCCH for a second RRC CONNECTION REQUEST message.						
7	<b></b>		RRC CONNECTION SETUP	SS sends the message to UE to setup an RRC connection with the UE.						
8				The UE shall configure the layer 2 and layer 1 in order to access the uplink and downlink DCCH assigned.						
9	-	>	RRC CONNECTION SETUP COMPLETE							

#### Specific Message Contents

#### **RRC CONNECTION REQUEST (Step 1)**

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Checked to see if it is set to IMSI stored in the test
	TEST USIM card.
Establishment Cause	Must be "Originating Call"

#### RRC CONNECTION REJECT (Step 2) - FDD

Information Element	Value/remark					
Wait time	15 seconds					
Redirection Info						
Frequency Info						
CHOICE mode	FDD					
UARFCN uplink (Nu)	Set to the UARFCN for uplink carrier of cell 2					
UARFCN downlink (Nd)	Not present					

Use the same message type found in Annex A, with the following exception.

#### RRC CONNECTION REJECT (Step 2) - TDD

Information Element	Value/remark					
Wait time	15 seconds					
Redirection Info						
Frequency Info						
CHOICE Mode	TDD					
UARFCN (Nt)	Set to a different UARFCN from the carrier of cell 1					

#### RRC CONNECTION REQUEST (Step 4 and step 6)

Same requirement as in step 1.

#### RRC CONNECTION REJECT (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds

#### 8.1.2.4.5 Test requirement

After step 3 the UE shall have successfully re-selected to cell 2, using information transmitted in IE "frequency info" of RRC CONNECTION REJECT message. UE shall trigger the start of RRC connection establishment by transmitting RRC CONNECTION REQUEST. The establishment cause shall be similar to the message sent in step 1. After step 5 the UE shall observe the period specified in IE "wait time" of an RRC CONNECTION REJECT message

After step 5 the UE shall observe the period specified in IE "wait time" of an RRC CONNECTION REJECT message and not transmit an RRC CONNECTION REQUEST message in this period.

After step 7 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message to SS on uplink DCCH and then establish an RRC connection.

## 3GPP TSG-T1 Sig Meeting #21 Sophia Antipolis, France, 18th – 20th February 2002

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## How to create CRs using this form:

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Other specs

Other comments:

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Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

**# 34.123-3** 

Other core specifications

# Affects testing of mobiles of release 99 and later.

Test specifications O&M Specifications

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 11.1.2 PDP context activation requested by the network, successful and unsuccessful

#### 11.1.2.1 Definition

This test needs to take into account the number of active PDP contexts supported simultaneously by the UE, to be able to test the response when all contexts are activated and the network tries to initiate a new context.

#### 11.1.2.2 Conformance requirement

- 1) Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message:
  - If the UE accepts the request the UE shall then initiate the PDP context activation procedure.
  - If the UE rejects the request, the UE shall send a REQUEST PDP CONTEXT ACTIVATION REJECT message with one of the following causes:

#26: insufficient resources;

- #31: activation rejected, unspecified;
- #40: feature not supported; or
- #95 111: protocol errors.
- 2) The UE shall not ignore the request.
- 3) If the UE accepts the request, the ACTIVATE PDP CONTEXT REQUEST message sent by the UE shall contain the parameters requested by the network in the REQUEST PDP CONTEXT ACTIVATION message, except for the offered QoS which may be changed by the UE.
- 4) Whenever a REQUEST PDP CONTEXT ACTIVATION message is received by the UE specifying a transaction identifier relating to a PDP context not in state PDP-INACTIVE, the UE shall locally deactivate the old PDP context relating to the received transaction identifier. Furthermore, the UE shall continue with the activation procedure of a new PDP context as indicated in the received message.

#### Reference

3GPP TS 24.008 clauses 6.1.3.1.2, 6.1.3.1.4 and 8.3.2.f).

3GPP TS 27.060 clause 7.3.3.

11.1.2.3 Test purpose

To test the behaviour of the UE upon receipt of a context activation request from the SS.

11.1.2.4 Method of test

#### Initial conditions

#### System Simulator:

1 cell, default parameters.

#### User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

#### Related ICS/IXIT statements

- PS Supported yes/no
- Network requested PDP context activation supported yes/no
- Number of network initiated PDP contexts supported

#### Case 1

For a UE that supports PDP context activation requested by the network.

#### Test procedure

A REQUEST PDP CONTEXT ACTIVATION message is sent by the SS. On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT message is returned by the SS. This is repeated until the maximum number of contexts supported by the UE is activated.

If all 256 PDP contexts are supported by the UE (extended TI mechanism in SM allows 256 PDP contexts), skip to step 7, request PDP context activation for an existing PDP context.

If maximum number of PDP contexts supported by the UE is less than 256, one more context should be requested by the SS. In response to this activation request the UE shall return a REQUEST PDP CONTEXT ACTIVATION REJECT message with cause set to 'insufficient resources', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #95-111.

REQUEST PDP CONTEXT ACTIVATION message is then sent by the SS using currently activated context transaction identifier. The UE shall activate this context in place of the previous context.

#### Expected sequence

Step	Direc	tion	Message	Comments
	UE	SS		
1	÷	-	REQUEST PDP CONTEXT	SS sends Request a PDP context activation
			ACTIVATION	to UE
2	$\rightarrow$		ACTIVATE PDP CONTEXT REQUEST	UE replies with a Request PDP context activation
3	÷	-	ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation
4	S	S		Steps 1-3 are repeated for the number of Network Initiated contexts supported. NOTE: If all 256 contexts are supported steps 5 and 6 should not be performed.
5	÷	-	REQUEST PDP CONTEXT ACTIVATION	SS requests a PDP context activation
6		>	REQUEST PDP CONTEXT ACTIVATION REJECT	The context activation request is rejected with cause 'insufficient resources', <u>'activation rejected, unspecified' or 'protocol</u> <u>errors' using cause values #26, #31, #40 or</u> #95-111.
7	÷		REQUEST PDP CONTEXT ACTIVATION	SS requests a PDP context activation for an existing context with TI the same as one of the active PDP contexts
8	UE			UE locally deactivates the old PDP context with the same TI value
9	1	>	ACTIVATE PDP CONTEXT REQUEST	UE continues with the activation of a new PDP context to replace deactivated context
10	÷	_	ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation

#### Case 2

For an UE that does not support PDP context activation requested by the network.

#### Test procedure

A REQUEST PDP CONTEXT ACTIVATION message is sent by the SS. The UE shall then send a REQUEST PDP CONTEXT ACTIVATION REJECT message.

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	÷	REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation
<u>2</u>	≯	REQUEST PDP CONTEXT ACTIVATION REJECT	Reject the PDP context activation request with cause 'insufficient resources', 'feature not supported', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #95-111.

#### Specific message contents

In Case 1 step 7, TI IE value is equal to the TI value of one of the active PDP contexts, Offered PDP address IE value and/or Access point name IE value are (is) different from the corresponding IE value(s) in the existing PDP context.

#### 11.1.2.5 Test requirements

The UE that is configured to support one or more PDP contexts simultaneously shall:

- accept PDP context activation initiated by the SS if number of active contexts is lower than the maximum.
- locally deactivate the old PDP context when a REQUEST PDP CONTEXT ACTIVATION message is received, specifying a transaction identifier relating to an active PDP context and continue with the activation procedure of a new PDP context as indicated in the received message.

The UE that does not support PDP Context Activation (a number of active contexts supported by the UE is equal to maximum or UE does not support PDP context) shall reject PDP context activation initiated by the SS.

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## How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# 11.1.1.1 Attach initiated by context activation/QoS Offered by Network is the QoS Requested

- 11.1.1.1.1 Definition
- 11.1.1.1.2 Conformance requirement

PDP context activation shall initiate PS Attach by the UE to establish a GMM context, when the UE is PS Detached.

In order to request a PDP context activation, the UE sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type, requested QoS and, if the UE requests a static address, the PDP address.

If the QoS offered by the network is the same as the QoS requested by the UE, then upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the UE shall stop timer T3380.

In GSM, the MS shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI.

In UMTS, both the network and the MS shall store the LLC SAPI and the radio priority in the PDP context.

A UE, which is capable of operating in both GSM and UMTS, shall use a valid LLC SAPI, while a UE which is capable of operating only in UMTS shall indicate the LLC SAPI value as "LLC SAPI not assigned" in order to avoid unnecessary value range checking and any other possible confusion in the network.

NOTE: The radio priority level and the LLC SAPI parameters, though not used in UMTS, shall be included in the messages, in order to support handover between UMTS and GSM networks.

#### Reference

3GPP TS 24.008 clauses 6.1.3.1 and 6.1.3.1.1.

11.1.1.3 Test purpose

To check that the UE initiates a PS attach, if one is not already active, when PDP context activation is requested.

To test the behaviour of the UE when SS responds to the PDP context activation request with the requested QoS.

11.1.1.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-DEREGISTERED, normal service" with valid P-TMSI and CKSN.

#### Related ICS/IXIT statements

- PS Supported yes/no
- Auto <u>Detach Attach</u> supported yes / no
- Method of context activation

#### Test procedure

If the UE is attached, then the Detach Request is originated from the UE indicating "GPRS detach without switching off". The network-<u>SS</u> responds with a Detach Accept after completing the security mode procedures. A PDP context

activation is then requested by the user. The PS attach (ATTACH REQUEST) is then indirectly caused by a requested PDP context activation. The SS returns the ATTACH ACCEPT message to the UE. Now session management can proceed with PDP context activation.

On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT is returned by the SS with the same requested QoS. The contents of the ACTIVATE PDP CONTEXT REQUEST message shall then be checked. The SS then waits for T3380 seconds to ensure T3380 has been stopped and no more ACTIVATE PDP CONTEXT REQUEST messages are sent by the UE. The SS then sends a MODIFY PDP CONTEXT REQUEST message to which the UE shall reply with a MODIFY PDP CONTEXT ACCEPT message to ensure the context has been set up.

#### Expected sequence

ection	wessage	Comments
E SS		
$\rightarrow$	DETACH REQUEST	Only sent if the UE attaches at power-up, if
		Detach is performed by the UE using MMI
		or AT Commands
÷	DETACH ACCEPT	SS sends Detach Accept message.
UE		Initiate a context activation
$\rightarrow$	ATTACH REQUEST	Request attach
÷	ATTACH ACCEPT	Accept attach
$\rightarrow$	ACTIVATE PDP CONTEXT	Request a PDP context activation (with
	REQUEST	static PDP address)
÷	ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
SS		Wait for T3380 seconds to ensure no
		further activate request messages come
		from the UE
$\leftarrow$	MODIFY PDP CONTEXT	SS sends a modify request to UE for the
	REQUEST (NETWORK TO UE	activated context
	DIRECTION)	
$\rightarrow$	MODIFY PDP CONTEXT	UE accepts the modification request from
	ACCEPT (UE TO NETWORK DIRECTION)	the network_ <u>SS</u> to show context is activated
		Image: SS         →       DETACH REQUEST         ←       DETACH ACCEPT         UE       →         →       ATTACH REQUEST         ←       ATTACH ACCEPT         →       ACTIVATE PDP CONTEXT         REQUEST       ←         ★       ACTIVATE PDP CONTEXT         ACCEPT       SS         ←       MODIFY PDP CONTEXT         ACCEPT       SS         ←       MODIFY PDP CONTEXT         ACCEPT       UE         →       MODIFY PDP CONTEXT         ACCEPT       UE

#### Specific message contents

None.

#### 11.1.1.1.5 Test requirements

When requesting a PDP context activation, the UE shall:

- initiate a PS ATTACH if one is not already active;
- when the SS responds to a PDP context activation request, initiated by the UE, with the requested QoS, the UE shall complete the PDP context activation procedure. To check if the PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

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#### How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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## T1-020058

Tdoc T1S-020083

#### 7.2.3.25 Receiver Status Triggers / Detection of missing PDUs

#### 7.2.3.25.1 Definition

This case tests that the UE transmits a status report whenever it detects that a PDU is missing, if this mode of operation is enabled. Incorrect operation of status reporting will cause degradation of service, or possible service failure.

#### 7.2.3.25.2 Conformance requirement

The receiver in any of following cases initiates this procedure ... Detection of missing PDUs is used and a missing PDU is detected.

#### Reference

TS 25.322 clause 11.5.2.

#### 7.2.3.25.3 Test purpose

1. To verify that a status report is transmitted if there are one or more missing PDUs.

#### 7.2.3.25.4 Method of test

#### Initial conditions

The generic procedure for Radio Bearer establishment (clause 7.1.3 of TS 34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

#### Test procedure

- a) The SS transmits 7 SDUs, each of size AM_7_PayloadSize 1 bytes, in PDUs with consecutive sequence numbers starting from 0, followed by 5 SDUs in PDUs with consecutive sequence numbers starting from 8, followed by an SDU in a PDU with a sequence number of 15.
- b) While transmitting, the SS monitors the uplink for STATUS PDUs.
- c) The SS may optionally release the radio bearer

#### Expected sequence

Step	Direction		Message	Comments		
_	UE SS		_			
1	÷	-	DOWNLINK RLC PDU	SN = 0		
2	÷			SS continues to transmit RLC SDUs		
3	<b></b>	-	DOWNLINK RLC PDU	SN = 6		
4	← D0		DOWNLINK RLC PDU	SN = 8		
5	$\rightarrow$	<b>&gt;</b>	STATUS PDU			
6	<b></b>	-	DOWNLINK RLC PDU			
7	←			SS continues to receive RLC PDUs		
8	←		DOWNLINK RLC PDU	SN = 12		
9	← DOW		DOWNLINK RLC PDU	SN = 15		
10	→ STATU		STATUS PDU			
11			RB RELEASE	Optional step		

#### 7.2.3.25.5 Test requirements

A STATUS PDU should be received from the UE after step 4, indicating that the PDU with sequence number 7 was missing.

A STATUS PDU should be received from the UE after step 9, indicating that the PDUs with sequence numbers 7, 13 and 14 were missing.

## 3GPP TSG-T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

[#] 34.12	<b>23-1</b> CR <b>150</b> [#] ev _ [#] Current version: <b>4.1.0</b> [#]
For <u>HELP</u> on using t	this form, see bottom of this page or look at the pop-up text over the $#$ symbols.
Proposed change affect	ts: 郑 (U)SIM ME/UE 🗙 Radio Access Network Core Network
Title: ೫ Cha	anges to RLC conformance test 7.2.3.20 (wrong PDUs expected)
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Category: % F Use Deta be fo Reason for change: %	Release: %       REL-4         one of the following categories:       Use one of the following releases:         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         niled explanations of the above categories can       REL-4       (Release 4)         pund in 3GPP TR 21.900.       REL-5       (Release 5)
	<ul> <li>sequence numbers 5,6 and 8. In 25.322 Section 9.6 it is specified that the VT(S) value after an AMD PDU is delivered to lower layer shall be used in the poll window formula. Thus, the expected sequence should be PDUs 3,4, and 8 (VT(S) values 4,5, and 9).</li> <li>2. Other PDUs may be detected by the SS with the poll bit set, resulting in the received PDUs not matching those expected.</li> </ul>
Summary of change: ₩	<ol> <li>Modified expected PDUs in Test Requirements from SNs 5, 6, and 8 to SNs 3, 4, and 8.</li> <li>Added extra step in Test Procedure to wait for all PDUs with poll bit set before moving the received window and ensuring PDU received in f) with poll bit set has SN 7.</li> </ol>
Consequences if % not approved:	Test incorrectly specified, resulting in failure of UEs that operate correctly.
Clauses affected: #	7.2.3.20
Other specs % affected:	Other core specifications       #         Test specifications
Other comments: #	Affects R99 and REL-4

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

T1-020057

Tdoc T1S-020082

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 7.2.3.20 Polling for status / Polling on Poll_Window% of transmission window

#### 7.2.3.20.1 Definition

This case tests that the UE will poll for a status request when it has reached Poll_Window% of the transmission window, when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.20.2 Conformance requirement

The Polling bit shall be set to 1 if ... Window based polling is used, , and J≥Poll_Window, where J is:

 $J \ge Poll_Window$ , where J is the window transmission percentage defined by

$$J = \frac{(4096 + VT(S) - VT(A)) \text{ mod } 4096}{VT(WS)} \quad * \ 100 \ ,$$

where the constant 4096 is the modulus for AM described in 3GPP TS 25.322 clause 9.4.

#### Reference

25.322 clauses 9.6 and 11.3.2.1.1.

#### 7.2.3.20.3 Test purpose

1. To verify that the UE polls the SS once the window based polling equation is satisfied.

7.2.3.20.4 Method of test

#### Initial conditions

The generic procedure for Radio Bearer establishment (clause 7.1.3 of TS 34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in clause 7.2.3.1.

The following RLC parameter values are used in place of the values in clause 7.2.3.1:

Uplink RLC	
Polling info	
Last transmission PDU poll	FALSE
Poll_Window	50
Transmission window size	8
Downlink RLC	
Receiving window size	8

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in UE test loop mode 1 with the UL SDU size set to AM_7_PayloadSize - 1 bytes.

#### Test procedure

Let W be the size of the transmission window.

- a) The SS transmits (W/2) + 2 RLC SDUs of size AM_7_PayloadSize 1 bytes.
- b) The SS checks the sequence number of the first uplink PDU to be received with the P bit set.
- c) The SS sends another RLC SDU of size AM_7_PayloadSize 1bytes.

- d) The SS checks the sequence number of the next uplink PDU to be received with the P bit set.
- e) The SS shall wait until no more new PDUs are received.
- ef) The SS sends a STATUS PDU acknowledging the first two-five RLC PDUs received, followed by two further RLC SDUs.
- fg) The SS checks the sequence number of the next uplink PDU to be received with the P bit set.
- <u>**gh</u>**) The SS may optionally release the radio bearer.</u>

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	÷	DOWNLINK RLC PDU	SDU 1
2	÷		SS continues to transmit RLC SDUs
3	$\leftarrow$	DOWNLINK RLC PDU	SDU W/2+2
4	$\rightarrow$	UPLINK RLC PDU	SDU 1
5	$\rightarrow$	UPLINK RLC PDU	SDU 2
6	$\rightarrow$		SS continues to receive RLC PDUs
_			
7	$\rightarrow$	UPLINK RLC PDU	SN = W/2+ <u>-</u> 1, Poll
8	÷	DOWNLINK RLC PDU	
9	$\rightarrow$	UPLINK RLC PDU	SN = W/2 <mark>+2</mark> , Poll
<u>9a</u>			SS waits until no more new PDUs are
			<u>received</u>
10	÷	STATUS PDU	ACK SN 0 to <u>34</u>
11	←	DOWNLINK RLC PDU	
12	←	DOWNLINK RLC PDU	
13	$\rightarrow$	UPLINK RLC PDU	SN = W/2+3
14	$\rightarrow$	UPLINK RLC PDU	SN = W/2+4, Poll
15		RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

#### 7.2.3.20.5 Test requirements

The SS shall receive RLC PDUs with the P bit set in PDUs with sequence numbers of 5, 6 and 83, 4, and 8. No other PDUs should have their P bits set.

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			CI	HAN	GE R	REQ	UE	ST					CR-Form-v4
ж	<mark>34.12</mark>	<mark>3-1</mark>	CR <mark>1</mark>	<mark>49</mark>	ж	ev	-	ж	Current	vers	ion: <mark>4</mark>	<mark>.1.0</mark>	ж
For <u>HELP</u> on	For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the $#$ symbols.									mbols.			
Proposed change	affects	s: #	(U)SI	M	ME/UE	X	Rad	io Ac	cess Ne	twork		Core Ne	etwork
Title: #	∜ Cha	nges	to MAC o	conform	nance te	st 7.1	<mark>.3.1 (</mark> i	impro	oved spe	ecifica	ation)		
Source: #	€ Eric	sson											
Work item code:₿	€ TEI								Dat	t <b>e:</b>	2002-	02-15	
Category: 3	€ F Use o F E C Detail be fou	ne of t (corr (corr (ada (fund (fund (edit ed exp ind in (	the followi ection) responds lition of fea ctional mod orial mod lanations 3GPP <u>TR</u>	ing cates to a con ature), odification, ification, of the a _21.900.	gories: rection in on of featu ) above cat	<i>an ea ure)</i> egorie	rlier re s can	elease	Releas Use <u>o</u> 2 R9 R9 R9 R9 RE RE	<b>e: %</b> <u>ne</u> of 7 8 9 2 2 - 2 - 4 - 5	REL-4 the follow (GSM P. (Release (Release (Release (Release (Release	4 wing rele hase 2) e 1996) e 1997) e 1998) e 1999) e 4) e 5)	pases:
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Summary of chan	ge:#	Impro clarity	oved spe y.	ecificatio	on so da	ta ins	ertion	take	s place	at RL	.C level.	Improv	ved
Consequences if not approved:	Ħ	Test	is open t	o interp	pretation	, whic	h cou	ıld le	ad to co	nfusio	on and l	JE failu	ire.
Clauses affected:	ж	7.1.3	.1										
Other specs affected:	ж	Ot Te Ot	her core est specif &M Spec	specifi fications ficatior	cations s ns	Ħ							
Other comments:	ж	Affec	ts R99 a	nd REL	4								

#### How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked 第 contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## T1-020056

Tdoc T1S-020080r1

### 7.1.3.1 Priority handling between data flows of one UE

- 7.1.3.1.1 Definition and applicability
- 7.1.3.1.2 Conformance requirement

When selecting between the Transport Format Combinations in the given Transport Format-

_Combination Set, priorities of the data flows to be mapped onto the corresponding Transport-

Channels can be taken into account.

The chosen TFC shall be selected from within the set of valid TFCs and shall satisfy the following criteria in the order in which they are listed below:

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- 1. No other TFC shall allow the transmission of more highest priority data than the chosen TFC.
- 2. No other TFC shall allow the transmission of more data from the next lower priority logical channels. Apply this criterion recursively for the remaining priority levels.
- 3. No other TFC shall have a lower bit rate than the chosen TFC.

The above rules for TFC selection in the UE shall apply to DCH, and the same rules shall apply for TF selection on RACH and CPCH.

#### Reference(s)

TS 25.301 clause 5.3.1.2.

TS 25.321, clause 11.4.

7.1.3.1.3 Test purpose

To verify that the priority between data flows of one UE was correctly handled.

7.1.3.1.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.
- The Test-USIM shall be inserted.

The UE is in Connected mode and a connection is established as described in the TS 34.123-1, 7.3.<u>1.2.1.1</u> PDCP testing, clause "Setup a UE <u>originated-terminated</u> PS session using IP Header compression in AM RLC (using Loop back test mode 1)", but for two Badio Bearer entities <u>user (RAB#0 and RAB#1)</u>. Therefore two uplink and downlink settings shall be configured. Both user RABs shall be initially configured with a MAC logical piority of 3. The allowed TFCS shall be limited in the UE such that it's not possible to simultaneously transmit at the highest possible data rate on the DCH for each user RAB. Simultaneous trasmission at lower data rates shall be possible.

The RABs are placed into loop-back mode 1 each with the UL SDU size set to 39 bytes

Related ICS/IXIT Statement(s)

TBD

#### Foreseen Final State of the UE

#### Test procedure

- a) The SS <u>simultaneously</u> sends <u>certain data blocks</u> <u>40 RLC SDUs of size 9 bytes each on each user RAB. The</u> <u>SDUs are concatenated</u>, 4 to each PDU.
- b) After having received the data block<u>PDUs</u> via configured mapped channels, the UE forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its MAC configuration to the SS.
- c) The SS receives the returned data and reads the <u>each</u> TFCI which indicates the Transport Format.
- d) The SS checks, that high data rate RBs have a high bit rate Transport Format.
- e) The SS reconfigures its RLC mode to be in AM RLC.
- fe) Repeat step a) to ed) repeat with different MAC logical channel priorities (MAC priority of RB1 and RB2RAB#0 set as 3, MAC priority of RB3 and RB4RAB#1 set as 1).

Expected sequence

Step	Dire	ction	Message	Comments
	UE	SS		
1				SS sends CMAC_MAC_HEADER_REQ with
				disable_mac_header, and CRLC_CONFIG_REQ
				with RLC mode as "Transparent Mode".
2		<u>.</u>	DATA BLOCKS	
			(Simultaneous PDUs on RAB#0	
			and RAB#1)	
3	1	<b>&gt;</b>	LOOP BACK DATA BLOCKS	Read the Transfer Format of loop back data
			(Order of received PDUs on RAB#0	blocks, the high bit transfer format apply to the
			and RAB#1 depends on configured	Radio Bearer with high MAC logical channel
			MAC Logical Priority)	priority.
4				SS sends CMAC_MAC_HEADER_REQ with
				disable_mac_header, and CRLC_CONFIG_REQ
				with RLC mode as "Transparent Mode".
<del>54</del>				The step 1 to 43 shall be repeated with different
				MAC logical channel priority.

#### **Specific Message Contents**

#### RADIO BEARER SET UP:

Information Element	Value/remark
RLC info	
	AM RLC
BB1 manning info	
MAG logical channel priority	4
Downlink	
- Number of logical channels	1
- Downlink transport channel type	DCH
RB2 mapping info	
—— MAC logical channel priority	4
Uplink	
<ul> <li>Number of logical channels</li> </ul>	4
<ul> <li>Uplink transport channel type</li> </ul>	DCH
RB3 mapping info	
MAC logical channel priority	2
Downlink	
- Number of logical channels	1
- Downlink transport channel type	DCH
RB4 mapping info	
MAC logical channel priority	2
Uplink	
- Number of logical channels	4
- Uplink transport channel type	DCH
TES	TE0 (1X366)
	TE1 (2X366)
	TE2 (4X366)
	TE3 (8X366)

#### 7.1.3.1.5 Test requirements

#### Itteration1:

The high bit rate TF is applied to the high MAC logical channel priority Radio Bearer. That is, the bit rate of TF used in user RAB#1 should be the same as that used in user RAB#0. Note: UE and SS timing issues may produre a slightly biased result.

Note: Measurements shall be taken over the 5th to 35th RLC PDUs received.

#### Itteration2:

The high bit rate TF is applied to <u>the</u> high MAC logical channel priority Radio Bearer. That is, the bit rate of TF <u>used in RB4-user RAB#1</u> should be not less than <u>that used in RB2user RAB#0</u>.

Note: Measurements shall be taken over the 5th to 35th RLC PDUs received.

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		rm-v4
^ж 3	<b>.123-1</b> CR 148 [#] ev - [#] Current version: 4.1.0 [#]	
For <u>HELP</u> on u	ng this form, see bottom of this page or look at the pop-up text over the $st$ symbols	] }.
Proposed change	fects: # (U)SIM ME/UE X Radio Access Network Core Network	k 📃
Title: ೫	Changes to MAC conformance test 7.1.2.5 (incorrectly specified test)	
Source: ೫	Ericsson	
Work item code: ℜ	TEI Date: 육 2002-02-15	
Category: ₩	FRelease: %REL-4Jse one of the following categories:Use one of the following releasesF (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99C (specific explanations of the above categories canREL-4REL-4(Release 4)D (end in 3GPP TR 21.900).REL-5	:
Reason for change	<ul> <li>Test is incorrectly specified on the following accounts:         <ol> <li>PDCP test specified specified in SS setup does not use M_{max} because test does not use RACH.</li> <li>M_{max} value of 0 is not allowed by RRC.</li> </ol> </li> </ul>	RB
Summary of chang	<ul> <li>:# 1. Changed SS set up so that test RB uses RACH transport channel. Therefore M_{max} affects test.</li> <li>2. Used values of 1 and 5 for M_{max}.</li> </ul>	re
Consequences if not approved:	#   All UEs will fail the test.	
Clauses affected:	^第 7.1.2.5	
Other specs affected:	%       Other core specifications       %         Test specifications       0&M Specifications	
Other comments:	affects R99 and REL-4	

#### How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 7.1.2.5 Control of RACH transmissions for FDD mode

7.1.2.5.1 Definition and applicability

All UE.

#### 7.1.2.5.2 Conformance requirement

MAC receives the following RACH transmission control parameters from RRC with the CMAC-Config-REQ primitive: maximum number of preamble ramping cycles Mmax.

When preamble transmission counter M larger than Mmax, then the procedure will stop and enter Error handling procedure.

#### Reference(s)

TS 25.321 11.2.2, TS 25.321 figure 11.2.2.1.

7.1.2.5.3 Test purpose

To verify that the MAC entity controls RACH transmission correctly.

7.1.2.5.4 Method of test

#### Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.
- SS broadcast System Information 5 with Mmax in RACH transmission parameters set as 0.

#### User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.
- The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.2.2.1 (CS UE) or 7.2.2.2 (PS UE) so that the UE shall be in idle mode and registered.

The UE is in Connected mode and a connection is established as described in the TS 34.123 1, clause 7.3 PDCP testing, clause "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1).

#### Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

- a) Transmission of the default system information messages specified in TS 34.108, clause 6.1 is modified such that:
- The dynamic persistence level (N) defined in SIB7 is set to 1, and the persistence scaling factors (s_x) defined in SIB5 are not broadcast. Note: these values should result in an attempted RACH transmission at every persistence check
- The RACH transmission parameter M_{max} defined in SIB5 is set to 1.

The counter N300 broadcast in SIB1 is set to 1.

- b) The SS pages the UE for a RRC CONNECTION REQUEST.
- c) The SS waits for a RACH preamble transmission on AICH, and does not respond to the RACH preamble transmission on AICH. This step shall be repeated M_{max} times.

d) The SS checks for 100ms that no further RACH preamble transmissions are received.

The above procedure is repeated with M_{max} set to 5.

- a) The SS configures its RLC entity for "Transparent Mode".
- b) The SS sends certain DATA BLOCKS.
- e) The SS shall not receive any LOOP BACK DATA BLOCKS within 30 s.

Expected sequence:

Step	Direction		Message	Comments
	UE	<del>SS</del>		
4				SS sends CMAC_MAC_HEADER_REQ with
				disable_mac_header and
				CRLC_CONFIG_REQ with RLC mode as
				"Transparent mode".
2		←	DATA BLOCKS	
3				SS shall not receive returned data blocks
				within 30s.
4				SS sends CMAC_MAC_HEADER_REQ with
				enable_mac_header and
				CRLC_CONFIG_REQ with RLC mode as
				"AM mode".

Step	Direction	Message	Comments
	UE SS		
1	<u>←</u>	System information	Modified SIB5, SIB7
<u>2</u>	<u>←</u>	PAGING	
<u>3</u>	$\rightarrow$	RACH preamble	Repeated M _{max} times.

#### 7.1.2.5.5 Test requirements

The SS does not receive loop back data blocks from UE when  $M_{max}$  set as 0. The SS shall receive 1 RACH preamble from the UE when  $M_{max} = 1$ .

<u>The SS shall receive 5 RACH preambles from the UE when  $M_{max} = 5$ .</u>

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^ж 3	4.123-1 CR 147 [#] ev - [#] Current version: 4.1.0 [#]
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.
Proposed change a	ffects: ೫ (U)SIM ME/UE X Radio Access Network Core Network
Title: ೫	Changes to MAC conformance test 7.1.2.4 (Access service class selection)
Source: ೫	Ericsson
Work item code: ℜ	TEI Date: ೫ 2002-02-15
Category: ⊮ Reason for change	F       Release: # REL-4         Use one of the following categories:       Ise one of the following releases:         F (correction)       2       (GSM Phase 2)         A (corresponds to a correction in an earlier release)       R96       (Release 1996)         B (addition of feature),       R97       (Release 1997)         C (functional modification of feature)       R98       (Release 1998)         D (editorial modification)       R99       (Release 1999)         Detailed explanations of the above categories can be found in 3GPP TR 21.900.       REL-4       (Release 4)         E found in 3GPP TR 21.900.       REL-5       (Release 5)         The user RAB specified in TS 34.123-1, clause 7.3 PDCP testing, clause       "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1) uses DCH not RACH as uplink transport channel. – ASC is not used on DCH and therefore cannot be tested with this RAB configuration.
	3. It may not be possible to filter transport blocks by setting uplink ASC at the SS.
Summary of chang	<ul> <li>e: # 1. Clause number for "Access service class selection" tets case is changed from 7.1.2.4 to 7.1.2.4a.</li> <li>2. Changed user RAB to one that uses RACH TrCH.</li> <li>3. Changed test so that it's not necessary to set upink ASC at SS.</li> </ul>
Consequences if not approved:	Working UEs will fail this test.
Clauses affected:	ж <mark>7.1.2.4</mark>
Other specs affected:	<ul> <li>Conter core specifications</li> <li>Test specifications</li> <li>O&amp;M Specifications</li> </ul>
Other comments:	# Affects R99 and REL-4

#### How to create CRs using this form:

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#### **Release 4**

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### Release 4

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## 7.1.2.4<u>a</u> Access Service class selection for RACH transmission

7.1.2.4<u>a</u>.1 Definition and applicability

All UE.

#### 7.1.2.4<u>a</u>.2 Conformance requirement

The following ASC selection scheme shall be applied, where NumASC is the highest available ASC number and MinMLP the highest logical channel priority assigned to one logical channel:

- In case all TBs in the TB set have the same MLP, select ASC=min(NumASC, MLP).
- In case TBs in a TB set have different priority, determine the highest priority level MinMLP and select ASC=min(NumASC, MinMLP).

Reference(s)

TS 25.321 clause 11.2.1.

7.1.2.4<u>a</u>.3 Test purpose

To verify that MAC selection selects ASC correctly.

7.1.2.4<u>a</u>.4 Method of test

Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

User Equipment:

- The UE shall operate under normal test conditions, Ciphering Off.
- The Test-USIM shall be inserted
  - The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:
    - 1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).

2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-2 (CS-CELL FACH INITIAL) with the following exception:

1. The MAC Logical Priority (MLP) of the user RAB is set to 8.

The user RAB is placed into loop-back mode 1 each with the UL SDU size set to 39 bytes

The UE is in Connected mode and a connection is established as described in the TS 34.123 1, clause 7.3 PDCP testing, clause "Setup a UE originated PS session using IP Header compression in AM RLC (using Loop back test mode 1).

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

Test procedure

a) The SS receives the PAGING RESPONSE message from the UE and checks the access slots and preamble signatures used correspond to a valid ASC as transmitted in system information.

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b) The SS reconfigures the transmitted system information as follows:

Only one ASC setting (ASC#0) is defined (with default parameters).

The available sub-channel number defined in system information is set to '0000 0000 0001'B Note: this value allows RACH transmission on sub-channel 0 only.

The SS then waits enough time for the UE to take the system information change into account.

- c) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.
- d) The SS waits to receive uplink data on RACH TrCH via the user RAB, then checks that the access slots and preamble signatures used correspond to ASC#0.
- e) The SS reconfigures the transmitted system information as follows:
  - Four ASC settings (ASC#0 to ASC#3) are defined (with default parameters), except that the parameter assigned sub channel number is set as follows:

ASC#0 Assigned sub channel number = '0000'B

ASC#1 Assigned sub channel number = '0001'B

ASC#2 Assigned sub channel number = '0000'B

ASC#3 Assigned sub channel number = '0010'B

The available sub-channel number defined in system information is set to '0000 0000 0001'B Note: this value allows RACH transmission on sub-channel 0 only (ASC#1).

The SS then waits enough time for the UE to take the system information change into account.

- f) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.
- g) The SS waits 2s to ensure no uplink data is received on RACH TrCH via the user RAB.
- h) The SS then reconfigures the uplink user RAB to have a MAC Logical Priority of 1.
- i) The SS sends 1 RLC SDU of size 10 bytes on the downlink user RAB.
- j) The SS waits to receive uplink data on RACH TrCH via the user RAB, then checks that the access slots and preamble signatures used correspond to ASC#1.
- k) The SS may optionally release the radio bearer.
- a) The SS configures its RLC entity for"Transparent Mode".
- b) The MAC entity in the SS side is configured with ASC as 4.
- c) The SS sends certain data blocks to UE.
- d) After having received the data block via configured mapped channels, the UE forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its MAC configuration to the SS.

e) The SS receives the returned data blocks from the UE.

- f) The MAC entity in SS side was reconfigured with ASC as any other data than 4.
- g) The SS sends the next data blocks to UE.
- h) The SS doesn't receive any data blocks from the UE within 30 s.
- i) The SS configures its RLC entity for AM mode".

- j) The SS sends RADIO BEARER RELEASE message to UE.
- k) The UE sends RADIO BEARER RELEASE COMPLETE message to SS.
- 1) The procedure from a to n was repeated 3 times with MAC logical priority set as 3, 2, 1 and configure the ASC in system simulator as 3, 2, 1 accordingly.

#### Expected sequence

Step	Direction		Message	Comments
	UE	SS		
<u>1</u>	-	<u>&gt;</u>	PAGING RESPONSE	SS checks ASC parameters
<u>2</u>	€	_		Modified system information
<u>3</u>	<u> </u>		RLC PDU	
<u>4</u>	<u>→</u>		RLC PDU	SS checks ASC parameters (ASC#0)
<u>5</u>	<u></u>	_		Modified system information
<u>6</u>	<u> </u>		RLC PDU	
<u>6a</u>				SS waits to check no RLC PDUs are received
<u>7</u>	←	<u>→</u>	<b>RB RECONFIGURATION</b>	User RAB MLP = 1
<u>8</u>	<u></u>		RLC PDU	
<u>9</u>	<u>→</u>		RLC PDU	SS checks ASC parameters (ASC#1)
<u>10</u>	↓	<del>)</del>	RB RELEASE	optional
4				SS sends CMAC_MAC_HEADER_REQ with
				disable_mac_header and CRLC_CONFIG_REQ
				with RLC mode as "Transparent mode".
2			CMAC_CONFIG-Req	SS sets the ASC as 4.
3	<b></b>	-	DATA BLOCKS	SS sends data blocks.
4	$\rightarrow$	≻	LOOP BACK DATA BLOCKS	SS shall receive the data block from UE.
5			CMAC_CONFIG-Req	SS sets the ASC as other value than 4.
6	<b>+</b>	-	DATA BLOCKS	SS sends data blocks.
7	$\rightarrow$	≻	LOOP BACK DATA BLOCKS	SS shall not receive the loop back data blocks
				from UE in 30s.
8				SS sends CMAC_MAC_HEADER_REQ with
				enable_mac_header and CRLC_CONFIG_REQ
				with RLC mode as "AM mode".
9			Repeat Step 1 to step 8 shall be	
			repeated 3 times with MAC Priority	
			set as 3, 2, 1 and the ASC of SS	
	1		set as 3, 2, 1 accordingly	

#### 7.1.2.4<u>a</u>.5 Test requirements

When the ASC in SS side match with the MAC priority, SS can receive the loop back data blocks, otherwise, The SS can't receive the loop back data blocks. This requirement applies to the different MAC priority.

In step 1, the access slots and preamble signatures used on the PRACH TrCH on which the PAGING RESPONSE message was received shall correspond to configured legal values for the allowed ASCs on the PRACH.

In step 4, the access slots and preamble signatures used on the PRACH TrCH on which the RLC PDU was received shall correspond to configured legal values for the allowed ASC#0.

In step 6a, no PDUs shall be received on PRACH.

In step 9, the access slots and preamble signatures used on the PRACH TrCH on which the RLC PDU was received shall correspond to configured legal values for the allowed ASC#1.

## 3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

		CHAN	GE RE		ST			CR-Form-v4
ж <mark>3</mark> ,	<mark>4.123-1</mark>	CR <mark>146</mark>	ж.	ev 🗕	жс	Current vers	^{sion:} <b>4.1.0</b>	Ħ
For <mark>HELP</mark> on us	ing this for	m, see bottom o	f this page	or look a	at the	pop-up text	over the # sy	mbols.
Proposed change a	ffects:	(U)SIM	ME/UE	Radio	o Acce	ess Networł	k Core N	etwork
Title: ೫	Changes	to MAC conform	ance test	7.1.2.2.1	(Modi	ify illegal tes	st)	
Source: ೫	Ericsson							
Work item code: ℜ	TEI					Date: ₩	2002-02-15	
Category: ₩	F Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp be found in	the following categ rection) responds to a corr lition of feature), ctional modification torial modification) planations of the a 3GPP <u>TR 21.900</u> .	gories: rection in an n of feature, bove catego	e <i>arlier rel</i> ) pries can	l lease)	Release: # Use <u>one</u> of 2 R96 R97 R98 R99 REL-4 REL-5	REL-4 the following rel (GSM Phase 2, (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	leases:
Reason for change.	: 光 Cont 25.3 still e value a val	rary to the purpo 21 clause 11.2.2 expect a RACH t of dyamic pers ue of 8 for the d	pse of the t , it is poss ransmissic istence val ynamic pel	est, acco ible to ha on. In add lue currer rsistence	rding ve a c ition, a ntly po level	to the inform dynamic per according to ossible is 0.0 and 0.2 for t	native figure 1 sistence value 25.331, the lo 0015625 (not 0 the scaling fac	1.2.2.1 in of 0 and owest )), using tor.
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Consequences if not approved:	^泼 Test	is not a valid tes	st.					
Clauses affected:	<mark>೫ 7.1.</mark> 2	2.1						
Other specs affected:		ther core specific est specifications &M Specification	cations S Is	ж				
Other comments:	<mark>ដ Affec</mark>	ts R99 and REL	-4					

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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## Tdoc T1S-020076

downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 7.1.2.2.1 Correct application of Dynamic Persistence (FDD)

7.1.2.2.1.1 Definition and applicability

All FDD UE.

7.1.2.2.1.2 Conformance requirement

The UE implements the dynamic persistence algorithm by:

- 1. reading the current dynamic persistence value from the BCH;
- 2. perform a random draw against the current dynamic persistence value. The random function is TBD;
- defer transmission for one frame and repeat the process if the result of the random draw is negative, otherwise proceed with a <u>RRC CONNECTION REQUEST</u><u>CHANNEL REQUEST</u>.

#### Reference(s)

TS 25.214 clause 6.25.321, clause 11.2.2 (figure 11.2.2.1)

#### 7.1.2.2.1.3 Test purpose

To verify that if the dynamic persistence value in the last appropriate message on the BCH is set to zero, the UE will not attempt a RACH accessUE correctly operates the dynamic persistence algorithm outlined in fig 11.2.2.1 of TS25.321.

7.1.2.2.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters, Ciphering Off.

The SS will be transmitting BCCH messages with the dynamic persistence value set to zero.

User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The UE shall be attached to the network and in idle mode.

Related ICS/IXIT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial conditions.

Test procedure

Itteration 1

a) The SS changes the default system information messages such that the dynamic persistence level is set to 8, and scaling factors are not transmitted. This results in a dynamic persistence value ( $P_i$ ) of 0.0078125 for all access service classes. Note: ASC#0 is not used because NumASC=7 and the lowest MLP value =1. - See 25.321, clause 11.2.1.

#### b) The SS waits until the UE has enough time to take account of the changes.

ac) The SS repeatedly pages the UE for T₂₂ seconds 100 times, waiting for the reception of a RRC CONNECTION REQUEST from the UE before each subsequent page.

b) The SS monitors the RACH for a CHANNEL REQUEST message from the UE.

#### Itteration 2

The SS performs step a to c) once more, but changes the default system information messages such that the dynamic persistence level is set to 1, and no scaling factors are transmitted. This results in a dynamic persistence value  $(P_i)$  of 1 for all access service classes.

#### Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	•	÷	PAGE	
2	-	$\rightarrow$	RRC CONNECTION REQUEST Wait for	
		_	T = ??	

The above sequence is repeated 100 times.

#### 7.1.2.2.5 Test requirements

Itteration 1

The SS shall receive a RRC CONNECTION REQUEST from the UE on averge every 1.28 seconds ±0.15s after each paging request.

Itteration 2

The SS shall receive a RRC CONNECTION REQUEST from the UE wihin 150ms after each paging request.

The SS should not detect any access on the RACH.

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T1-020052

	CHANGE REQUEST												
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For <u>HELP</u> o	n u	sing this for	m, see	e bottom	of this	pag	ge or	look	at th	e pop-up text	over	the # sy	mbols.
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Reason for change: ℜ	<ol> <li>In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing.</li> <li>Editorial changes</li> </ol>
Summary of change: ₩	<ol> <li>Removed use of Timer Status Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate.</li> <li>Changed wording in step b).</li> <li>Precaution Increased Tx/Rx window size to allow test to execute as specified; without need for MRW procedure.</li> </ol>
Consequences if % not approved:	1. Working UEs will fail the test.
Clauses affected: #	7.1.1.8
Other specs % affected:	Other core specifications       #         Test specifications       #         O&M Specifications       •
Other comments: #	Affects R99 and REL-4

## 7.1.1.8 DTCH or DCCH mapped to DCH / Invalid C/T Field

#### 7.1.1.8.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACHDCH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

#### 7.1.1.8.2 Conformance requirement

DTCH or DCCH mapped to DCH, no multiplexing of dedicated channels on MAC: -no MAC header is required.

DTCH or DCCH mapped to DCH, with multiplexing of dedicated channels on MAC: -C/T field is included in MAC header.

The following fields are defined for the MAC header:

- C/T field

The C/T field provides identification of the logical channel instance when multiple logical channels are carried on the same transport channel...

C/T field	Designation		
0000	Logical channel 1		
0001	Logical channel 2		
1110	Logical channel 15		
1111	Reserved		
	(PDUs with this coding will be		
	discarded by this version of		
	the protocol)		

#### Structure of the C/T field

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 b).

7.1.1.8.3 Test purpose

- 1. To verify that the UE discards PDUs with reserved or incorrect values in C/T field.
- 2. To verify that the C/T field is correctly applied when a DTCH or DCCH is mapped to a DCH.

#### 7.1.1.8.4 Method of test

#### Initial conditions

System Simulator:

- 1 cell, default parameters, Ciphering Off.

Higherleyer	DAR/gignalling DR				
nigher layer					
	User of Radio Bea	NAS_DI			
			High prio		
RLC	Logical channel typ	De	DCCH		
	RLC mode		ТМ		
	Payload sizes, bit		148		
	Max data rate, bps		3700		
	RLC header, bit		0		
MAC	MAC header, bit		0 (note)		
	MAC multiplexing		Simulated by SS		
Layer 1	TrCH type	DCH			
-	TB sizes, bit	148			
	TFS	TF0, bits	0 x 148		
		1 x 148			
	TTI, ms	40			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits	516			
	matching				
	Uplink: Max numbe	129			
	frame before rate r				
	RM attribute	155-165			
NOTE: The SS	MAC laver must be configured not to add a MAC header so that				
the head	ader can be added by the test case in order to create the				
necessa	ry invalid values.				

The DCH/DPCH is configured as specified in TS 34.108 clause 6.10.2.4.1.2: Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH) with the following exception:

The TFCS should be configured as specified in clause 6.10.2.4.1.2.1.1.2.

User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

- 1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).
- 2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-1 (CS-CELL_DCH_INITIAL). During this procedure the RRC CONNECTION SETUP message shall allocate a DCH to carry the signalling radio bearers as follows:

- 1. The DCH/DPCH is configured as specified in TS 34.108 clause 6.10.2.4.1.2: Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH) with the following exception:
  - 1.1 The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling has <u>Missing PDU</u> <u>Indicator enabled</u><u>Timer_Status_Periodic enabled</u>, with a period of 300 ms.
  - 1.2 The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling, has Transmission window size set to 128, and has Receive window size set to 128.

#### Test procedure

- a) The SS receives the PAGING RESPONSE message from the UE and checks the C/T field.
- b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
C/T	0100'B

c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct C/T value for AM-DCCH NAS High Priority of 0010'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).

ed) The SS receives a STATUS PDU on SRB #3 AM RLC on the DCH due to <u>detection of missing PDUs</u>expiry of <u>Timer_Status_Periodic</u>.

<u>de</u>) The SS repeats steps b) <u>c)</u> and <u>ed</u>), with the C/T field set as follows:

Iteration	C/T Value				
2	1111'B				

## e) The SS repeats steps b) and c), with the C/T field set to the Logical Channel ID for SRB #3 (AM DCCH NAS High Priority): 0010'B.

#### Expected sequence

Step	Direction	Message	Comments				
	UE SS						
1	$\rightarrow$	PAGING RESPONSE	Check C/T field				
2	$\downarrow$	MAC PDU(C/T, RLC AM PDU(SN <u>=x</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T = 0100'B, or $\frac{1111'B}{2}$				
	+	MAC PDU(C/T, RLC AM PDU(SN <u>=x+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T = $0100'B$ , or <u>1111'B</u>				
	L	TRANSFER(AUTHENTICATION REQUEST)	Sent with incorrect C/T = 0100 B, or $\frac{1111'B}{B}$				
3	$\rightarrow$	RLC-STATUS-PDU	NAK above PDUs				
4	4	MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T 1111'B				
	4	MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T 1111'B				
	÷	MAC PDU(C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect C/T 1111'B				
5	$\rightarrow$	RLC-STATUS-PDU	NAK above PDUs				
<u>63</u>	÷	MAC PDU(C/T, RLC AM PDU(SN <u>=x+n+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct C/T = 0010'B				
	+	MAC PDU(C/T, RLC AM PDU(SN <u>=x+n+2</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct C/T = 0010'B				
	-						
	÷	MAC PDU(C/T, RLC AM PDU(SN <u>=x+n+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct C/T = 0010'B				
7 <u>4</u>	$\rightarrow$	RLC-STATUS-PDU	NAK PDUs with SN = x to x+nACK above PDUs				
8 <u>5</u>	$\rightarrow$	AUTHENTICATION RESPONSE	C/T Field is recognised as correct for the DCCH				

Specific Message Contents

None

#### 7.1.1.8.5 Test Requirement

In step a) the C/T field should be set to the Logical Channel ID for SRB #3 (0010'B). Note that this may be implied frrom receipt of the PAGING RESPONSE message correctly by the SS test script.

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On the first iteration, and on each iteration in step ed) the UE should shall transmit a STATUS PDU on the RLC AM entity associated with SRB #3 each time the first PDU with C/T=0010'B is received in step c) Timer_Status_Periodic expires, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE message iteration the UE should respond with an AUTHENTICATION RESPONSE message.

R98

R99

REL-4

REL-5

(Release 1998) (Release 1999)

(Release 4)

(Release 5)

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## 3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21th-22th February 2002

## 3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

CHANGE REQUEST										CR-Form-v4					
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**C** (functional modification of feature)

Detailed explanations of the above categories can

**D** (editorial modification)

be found in 3GPP TR 21.900.

ason for change:	In the defined Test Procedure no STATUS PDU will ever be sent by the UE in				
ste to c 2. I	p c) because no good following PDUs are sent to move VR(H) and allow RLC detect that PDUs are missing. Editorial changes				
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nsequences if # 1.\ tapproved:	Working UEs will fail the test.				
uses affected: [#] 7.1	.1.5				
her specs #	Other core specifications # Test specifications O&M Specifications				
her comments: ೫ Aff	ects R99 and REL-4				
### 7.1.1.5 DTCH or DCCH mapped to RACH/FACH / Incorrect UE ID

### 7.1.1.5.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.5.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- UE-Id

The UE-Id field provides an identifier of the UE on common transport channels...

### Lengths of UE Id field

UE Id type	Length of UE Id field
U-RNTI	32 bits
C-RNTI	16 bits

### Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

7.1.1.5.3 Test purpose

- 1. To verify that the UE ignores PDUs with UE-Ids that do not match the Id allocated to it.
- 2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.5.4 Method of test

Initial conditions

System Simulator:

See clause 7.1.1.2.4.

User Equipment:

See clause 7.1.1.2.4.

### Test procedure

- a) The SS receives the PAGING RESPONSE message from the UE and checks the UE-Id field.
- b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

1

Field	Value
TCTF	11'B
UE ID Type	C-RNTI
UE ID	Address allocated in RRC CONNECTION SETUP message + 1.
С/Т	Logical Channel ID for SRB #4- <u>3</u> (AM-DCCH NAS High Priority): 0010'B

- c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct UE-Id value of the address allocated in the RRC CONNECTION SETUP message. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).
- ed) The SS receives a STATUS PDU on SRB #4-3 AM RLC on the RACH due to detection of missing PDUsexpiry of Timer_Status_Periodic.
- d) The SS repeats steps b) and c), with the UE Id field set to the address allocated in RRC CONNECTION SETUP message.

### Expected sequence

Step	Direction		Message	Comments		
	UE	SS				
1		•	PAGING RESPONSE	Check UE-Id		
2	<b></b>	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect UE-Id = C- RNTI+1		
	•	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect UE-Id = C- RNTI+1		
	÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect UE-Id = C- RNTI+1		
3	<b>*</b>	F	RLC-STATUS-PDU	NAK above PDUs		
4 <u>3</u>	÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct UE-Id = C-RNTI		
	÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+2</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct UE-Id = C-RNTI		
		-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct UE-Id = C-RNTI		
5 <u>4</u>	<i>→</i>	•	RLC-STATUS-PDU	NAK PDUs with SN = x to x+nACK above PDUs		
<mark>65</mark>	$\rightarrow$	<b>&gt;</b>	AUTHENTICATION RESPONSE	UE-Id is recognised as correct for the UE		

### Specific Message Contents

None

### 7.1.1.5.5 Test Requirement

In step a) the UE-Id field should be set to the C-RNTI allocated in the RRC CONNECTION SETUP message. Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration iIn step ed) the UE should shall transmit a STATUS PDU on the RLC AM entity associated with SRB #4-3 each time when the first PDU with UE-Id = value of the address allocated in the RRC CONNECTION <u>SETUP message</u>, is received in step c) Timer_Status_Periodic expires, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of the expected sequence the SS shall receive an AUTHENTICATION RESPONSE message iteration the UE should respond with an AUTHENTICATION RESPONSE message.

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Category:	ж <mark>F</mark>	Release: #	REL-4
	Use <u>one</u> of the following categories:	Use <u>one</u> of	the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release	) R96	(Release 1996)
	<b>B</b> (addition of feature),	R97	(Release 1997)
	<b>C</b> (functional modification of feature)	R98	(Release 1998)
	<b>D</b> (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can	REL-4	(Release 4)
	be found in 3GPP TR 21.900.	REL-5	(Release 5)

Reason for change: ೫	1. In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing.
	2. Editorial changes
Summary of change:	<ol> <li>Removed use of Timer Status Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected sequence, and test requirements to compensate.</li> <li>Changed wording in step b).</li> </ol>
Consequences if % not approved:	1. Working UEs will fail the test.
Clauses affected.	7444
Clauses affected: #	7.1.1.4
Other specs % affected:	Other core specifications       #         Test specifications          O&M Specifications
Other comments: ೫	Affects R99 and REL-4

Tdoc T1S-020073

T1-020050

### 7.1.1.4 DTCH or DCCH mapped to RACH/FACH / Invalid UE ID Type Field

### 7.1.1.4.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

7.1.1.4.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- UE-Id Type

The UE-Id Type field is needed to ensure correct decoding of the UE-Id field in MAC Headers.

UE-Id Type field 2 bits	UE-Id Type
00	U-RNTI
01	C-RNTI
10	Reserved (PDUs with this coding will be discarded by this version of the protocol)
11	Reserved (PDUs with this coding will be discarded by this version of the protocol)

Table 9.2.1.7: UE-Id Type field definition

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

### 7.1.1.4.3 Test purpose

- 1. To verify that the UE discards PDUs with reserved values in UE-Id type field.
- 2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

### 7.1.1.4.4 Method of test

Initial conditions

System Simulator:

See clause 7.1.1.2.4.

User Equipment:

See clause 7.1.1.2.4.

### Test procedure

- a) The SS receives the PAGING RESPONSE message from the UE and checks the UE-Id Type field.
- b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	11'B
UE ID Type	10'B
UE ID	As set in RRC CONNECTION SETUP message.
C/T	Logical Channel ID for SRB #4-3 (AM-DCCH NAS High Priority): 0010'B

- c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct UE-Id type value for C-RNTI of 01'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).
- ed) The SS receives a STATUS PDU on SRB #4-3 AM RLC on the RACH due to detection of missing PDUsexpiry of Timer_Status_Periodic.

 $\underline{de}$ ) The SS repeats steps b) <u>c)</u> and  $\underline{ed}$ ), with the UE-Id type field set as follows:

Iteration	UE-Id type Value
2	11'B

e) The SS repeats steps b) and c), with the UE Id type field set to indicate a C RNTI: 01'B.

### Expected sequence

1       →       PAGING RESPONSE       Check UE-Id Type         2       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST)       Sent with incorrect UE-Id Type = 10'B, or 11'B.         3       →       RLC-STATUS-PDU       NAK above PDUs         4       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, SEGMENT n))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         3       →       RLC-STATUS-PDU       NAK above PDUs         4       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, Sent with incorrect UE-Id Type = 11'B         0       →       REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B	
1       ->       PAGING RESPONSE       Crick OE-Id Type         2       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 10'B_or 11'B_          ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))       Sent with incorrect UE-Id Type = 10'B_or 11'B_          ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))       Sent with incorrect UE-Id Type = 10'B_or 11'B_         3       →       REC-STATUS-PDU       NAK above PDUs         4       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B          ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B	
←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+1, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         3       →       RLC-STATUS-PDU         4       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       NAK-above PDUs Sent with incorrect UE-Id Type = 11'B         ★       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B	
←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN=x+n, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))       Sent with incorrect UE-Id Type = 10'B, or 11'B.         3       →       RLC-STATUS-PDU       NAK above PDUs         4       ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B         ←       MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))       Sent with incorrect UE-Id Type = 11'B	
3     →     RLC-STATUS-PDU     NAK above PDUs       4     ←     MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))     Sent with incorrect UE-Id Type = 11'B        ←     MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION DIRECT DIRE	
3     7     KLC-STATUS-PDU     NAK above PDUs       4        ←     MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))      Sent with incorrect UE-Id Type = 11'B          ←     MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION DIRECT TRANSFER(AUTHENTICATION DIRECT TRANSFER(AUTHENTICATION DIRECT TRANSFER(AUTHENTICATION DIRECT TRANSFER(AUTHENTICATION     Sent with incorrect UE-Id Type = 11'B	
← MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION 11'B	
REQUEST) SEGMENT 2))	
← MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION 11'B REQUEST) SEGMENT n))	
5 → RLC-STATUS-PDU ^{(''} NAK above PDUs	
63 ← MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	1'B
← MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+2</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	1'B
← MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	1'B
$74$ $\rightarrow$ RLC-STATUS-PDUNAK PDUs with SN = x to x+nACabove PDUs	ж
85 → AUTHENTICATION RESPONSE UE-Id is recognised as correct fo the UE	r

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Expected sequence is repeated for iteration 2.

### Specific Message Contents

None

### 7.1.1.4.5 Test Requirement

In step a) the UE-Id Type field should be set to 01'B. Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ed) the UE should shall transmit a STATUS PDU on the RLC AM entity associated with SRB #4-3 each time the first PDU with UE-Id Type=01'B is received in step c)Timer_Status_Periodic expires, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE messageOn the final iteration the UE should respond with an AUTHENTICATION RESPONSE message.

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Reason for change: ¥	<ol> <li>In the defined Test Procedure no STATUS PDU will ever be sent by the UE in step c) because no good following PDUs are sent to move VR(H) and allow RLC to detect that PDUs are missing.</li> <li>Editorial changes</li> </ol>
Summary of change: #	1. Removed use of Timer Status Periodic and replaced STATUS trigger mechanism with 'Missing PDU Indicator'. Changed test procedure, expected
	sequence, and test requirements to compensate. 2. Changed wording in step b).
Consequences if % not approved:	1. Working UEs will fail the test.
Clauses affected: #	7.1.1.3
Other specs % affected:	Other core specifications       #         Test specifications       #         O&M Specifications       •
Other comments: ೫	Affects R99 and REL-4

*Tdoc T1S-020072* 

### 7.1.1.3 DTCH or DCCH mapped to RACH/FACH / Invalid C/T Field

### 7.1.1.3.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

### 7.1.1.3.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- C/T field

The C/T field provides identification of the logical channel instance when multiple logical channels are carried on the same transport channel...

C/T field	Designation	
0000	Logical channel 1	
0001	Logical channel 2	
1110	Logical channel 15	
1111	1111 Reserved	
	(PDUs with this coding will be	
	discarded by this version of	
	the protocol)	

Structure of the C/T field

#### Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

### 7.1.1.3.3 Test purpose

- 1. To verify that the UE discards PDUs with reserved or incorrect values in C/T field.
- 2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

7.1.1.3.4 Method of test

Initial conditions

System Simulator:

See clause 7.1.1.2.4.

User Equipment:

See clause 7.1.1.2.4.

Test procedure

- a) The SS receives the PAGING RESPONSE message from the UE and checks the C/T field.
- b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	11'B
UE ID Type	C-RNTI
UE ID	As set in RRC CONNECTION
	SETUP message.
C/T	0111'B

Where a TCTF size of 8 bits is used, 6 bits from the RLC payload shall be discarded.

- c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct C/T value for AM-DCCH NAS High Priority of 0010'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).
- ed) The SS receives a STATUS PDU on SRB #4-3 AM RLC on the RACH due to detection of missing PDUsexpiry of Timer_Status_Periodic.
- <u>de</u>) The SS repeats steps b) <u>c)</u> and <u>ed</u>), with the C/T field set as follows:

Iteration	C/T Value
2	1111'B

e) The SS repeats steps b) and c), with the C/T field set to the Logical Channel ID for SRB #4 (AM DCCH NAS High Priority): 0010'B.

Expected sequence

Step	Direction	Message	Comments
1	$\rightarrow$	PAGING RESPONSE	Check C/T field
2	÷	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T = $0111'B$ .
	÷	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T = 0111'B <u>. or</u> <u>1111'B.</u>
	<del>~</del>	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect C/T = $0111'B_{, or}$ <u>1111'B.</u>
3	$\rightarrow$	RLC-STATUS-PDU	NAK above PDUs
4	+	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect C/T 1111'B
	<del>\</del>	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect C/T 1111'B
	<del>\</del>	 MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect C/T 1111'B
5	$\rightarrow$	RLC-STATUS-PDU	NAK above PDUs
6 <u>3</u>	÷	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct C/T = 0010'B
	÷	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+2</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct C/T = 0010'B
	<del>\</del>	MAC PDU(FCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct C/T = 0010'B
7 <u>4</u>	$\rightarrow$	RLC-STATUS-PDU	NAK PDUs with SN = x to x+nACK above PDUs
85	$\rightarrow$	AUTHENTICATION RESPONSE	C/T Field is recognised as correct

Expected sequence is repeated for iteration 2.

### Specific Message Contents

None

### 7.1.1.3.5 Test Requirement

In step a) the C/T field should be set to the Logical Channel ID for SRB #4 (0010'B). Note that this may be implied from receipt of the PAGING RESPONSE message correctly by the SS test script.

On the first iteration, and on each iteration in step ed) the UE should shall transmit a STATUS PDU on the RLC AM entity associated with SRB #4-3 each time the first PDU with C/T=0010'B is received in step c)Timer_Status_Periodic expires, negatively acknowledging the PDUs transmitted in step b) as missing.

At the end of each expected sequence the SS shall receive an AUTHENTICATION RESPONSE message. On the final iteration the UE should respond with an AUTHENTICATION RESPONSE message.

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### 3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

not approved:

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Proposed change aff	ects: ೫ (U)SIM	ME/UE X Rad	lio Access Network	Core Network
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Source: ೫ E	Ericsson			
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Category:       #       F       Release: %       REL-4         Use one of the following categories:       Use one of the following releases:       F       (correction)       2       (GSM Phase 2)         A       (corresponds to a correction in an earlier release)       R96       (Release 1996)         B       (addition of feature),       R97       (Release 1997)         C       (functional modification of feature)       R98       (Release 1998)         D       (editorial modification)       R99       (Release 4)         D       the above categories can       REL-4       (Release 4)         be found in 3GPP TR 21.900.       REL-5       (Release 5)				4 llowing releases: 1 Phase 2) ase 1996) ase 1997) ase 1998) ase 1999) ase 4) ase 5)
Reason for change:	<ul> <li>In the defined Tess step c) because no of to detect that PDUs 2. Editorial changes</li> </ul>	st Procedure no ST good following PDU are missing.	ATUS PDU will ever be Is are sent to move VR(	sent by the UE in H) and allow RLC
Summary of change:	<ul> <li>1. Removed use of mechanism with 'Mis sequence, and test in 2. Changed wording</li> <li>3. Increased Tx/Rx in need for MRW procession</li> </ul>	Timer Status Perio ssing PDU Indicator requirements to con a in step b). window size to allow edure.	odic and replaced STAT r'. Changed test procedu npensate. v test to execute as spe	US trigger ure, expected cified; without
Consequences if	第 1. Working UEs will	fail the test.		

 Clauses affected:
 # 7.1.1.2

 Other specs affected:
 # Other core specifications # Test specifications O&M Specifications

 Other comments:
 # Affects R99 & REL-4

# Tdoc T1S-020071

T1-020048

### 7.1.1.2 DTCH or DCCH mapped to RACH/FACH / Invalid TCTF

### 7.1.1.2.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

### 7.1.1.2.2 Conformance requirement

DTCH or DCCH mapped to RACH/FACH:

TCTF field, C/T field, UE-Id type field and UE-Id are included in the MAC header.

The following fields are defined for the MAC header:

- Target Channel Type Field

•••

### Coding of the Target Channel Type Field on FACH for FDD

TCTF	Designation	
00	BCCH	
01000000	СССН	
01000001-	Reserved	
01111111	(PDUs with this coding	
	will be discarded by this	
	version of the protocol)	
1000000	СТСН	
1000001-	00001- Reserved	
10111111	(PDUs with this coding	
	will be discarded by this	
	version of the protocol)	
11	DCCH or DTCH	
	over FACH	

Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.1 c).

### 7.1.1.2.3 Test purpose

- 1. To verify that the UE discards PDUs with reserved or incorrect values in the TCTF field.
- 2. To verify that the TCTF field, C/T field, UE-Id type and UE-Id field are correctly applied when a DTCH or DCCH is mapped to the RACH/FACH.

### 7.1.1.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters, Ciphering Off.

The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for DCCH + SRB for DCCH + SRB for BCCH) with the following exceptions for the FACH:

Higher	RAB/signalli	RB#3 (SRB#3)	
layer	User of Radi	Test	
RLC	Logical chan	nel type	DCCH
	RLC mode		TM
	Payload size	s, bit	168
	Max data rat	e, bps	<u>33600 (alt.</u> <u>50400)</u> 33600)
	RLC header.	, bit	0
MAC	MAC header	, bit	0 (note)
MAC	MAC multiple	exing	Simulated by SS
Layer 1	TrCH type		FACH
	TB sizes, bit		168
		TF0, bits	0 x 168
	TEO	TF1, bits	1 x 168
	115	TF2, bits	2 x 168
		TF3, bits	N/A (alt. 3 x 168)
	TTI, ms		10
	Coding type		CC 1/2
	CRC, bit		16
	Max number	of bits/TTI	752 (alt. 1136)
	before rate matching		
	RM attribute		200-240
NOTE:	The SS MAC layer must be configured not to add a MAC header so that the header can be added by the test case in order to create the necessary invalid values.		

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and using the configuration in TS 34.108 clause 6.10.2.4.3.3 for the PCH.

The TFCS should be configured as specified in clause 6.10.2.4.3.3.1.4.

#### User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

- 1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).
- 2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.4.2.1 (Mobile Terminated) so that the UE shall be in state BGP 6-2 (CS-CELL_FACH_INITIAL) with the following exception:

1. The RLC entity for RB#3 (SRB#4<u>3</u>), AM DCCH for high priority NAS signalling has <u>Timer_Status_Periodic</u> enabled, with a period of <u>300ms</u>Missing PDU Indicator enabled.

2. The RLC entity for RB#3 (SRB#3), AM DCCH for high priority NAS signalling, has Transmission window size set to 128, and has Receive window size set to 128.

### Test procedure

- a) The SS receives the PAGING RESPONSE message from the UE and checks the TCTF field.
- b) The SS transmits MAC PDUs containing RLC AM PDUs containing a DIRECT TRANSFER message containing an AUTHENTICATION REQUEST message.

The DIRECT TRANSFER message will shall be segmented into 128-bit PDUs, with correct RLC AM headers.

The MAC header shall be set as follows:

Field	Value
TCTF	00'B
UE ID Type	C-RNTI
UE ID	As set in RRC CONNECTION
	SETUP message.
C/T	Logical Channel ID for SRB #4-3
	(AM-DCCH NAS High Priority)

Where a TCTF size of 8-bits is used, 6-bits from the RLC payload shall be discarded.

- c) The SS again transmits MAC PDUs as in b) above, but this time uses the correct TCTF of 11'B. The sequence numbers in the RLC headers shall be incremented normally from those sent in b).
- ed) The SS receives a STATUS PDU on SRB #4-<u>3</u> AM RLC on the RACH due to expiry of <u>Timer_Status_Periodic_detection of missing PDUs</u>.

de) The SS repeats steps b), c), and ed), with the TCTF field set as follows:

Iteration	TCTF Value
2	01000000'B
3	01000001'B
4	10000000'B
5	1000001'B

e) The SS repeats steps b) and c), with the TCTF field set as to 11'B.

### Expected sequence

Step	Direction UE SS		Message	Comments
1	→		PAGING RESPONSE	Check TCTF
2			MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 00'B, 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B,
	•		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 00'B. 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B.
-	ļ ,			
		-	PDU(ICIF, UE-ID, C/I, RLC AM PDU(SN <u>=x+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 00'B, 0100 0000'B, 0100 0001'B, 1000 0000'B, or 1000 0001'B,
3	-	≻	RLC-STATUS-PDU	NAK above PDUs
4	•	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 0100 0000'B
	+	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 0100 0000'B
			<del></del>	
	<b></b>	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 0100 0000'B
5	-	≻	RLC-STATUS-PDU	NAK above PDUs
6	<del>(</del>	_	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN,	Sent with incorrect TCTF = 0100
			DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	<del>0001'B</del>
	•	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 0100 0001'B
			<del></del>	
	<b></b>		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 0100 0001'B
7		≻	RLC-STATUS-PDU	NAK above PDUs
8	+	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 1000 0000'B
	•	_	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 1000 0000'B
	•	-	MAC PDU(ICIF, UE-ID, C/I, REC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect ICIE = 1000 0000'B
<del>9</del>	Ţ	≻	RLC-STATUS-PDU	NAK above PDUs
<del>10</del>	<b></b>	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with incorrect TCTF = 1000 0001'B
	<b></b>	_	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with incorrect TCTF = 1000 0001'B
	<b>→</b>		MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN, DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with incorrect TCTF = 1000 0001'B
11	-	<del>}</del>	RI C-STATUS-PDU	NAK above PDUs

	Step	Direc	tion	Message	Comments
		UE	SS		
	<del>12</del> 3	÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+1</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 1))	Sent with correct TCTF = 11'B
I		÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+2</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT 2))	Sent with correct TCTF = 11'B
		÷	-	MAC PDU(TCTF, UE-ID, C/T, RLC AM PDU(SN <u>=x+n+n</u> , DIRECT TRANSFER(AUTHENTICATION REQUEST) SEGMENT n))	Sent with correct TCTF = 11'B
	<del>13<u>4</u></del>	÷	•	RLC-STATUS-PDU	NAK PDUs with SN = x to x+nACK above PDUs
	<u>145</u>	÷	<b>&gt;</b>	AUTHENTICATION RESPONSE	TCTF Field is recognised as correct for the DCCH

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Expected sequence is repeated for iterations 2 to 5.

### Specific Message Contents

None

### 7.1.1.2.5 Test Requirement

In step a) the TCTF field should have the value 00'B. Note that this may be implied free message correctly by the SS test script.

On the first iteration, and on each iteration in step ed) the UE should shall transmit a STATUS PDU on the RLC AM entity associated with SRB #4-3 each time Timer_Status_Periodic expires the first PDU with TCTF=11'B is received in step c), negatively acknowledging the PDUs transmitted in step b) as missing.

On the final iteration<u>At the end of each expected sequence</u> the <u>UE should respond withSS shall receive</u> an AUTHENTICATION RESPONSE message.

### 3GPP TSG–T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

CHANGE REQUEST			
^ж 3	<b>4.123-1</b> CR <b>140</b> [#] ev _ [#] Current version: <b>4.1.0</b> [#]		
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.		
Proposed change	affects: # (U)SIM ME/UE X Radio Access Network Core Network		
Title: %	Changes to MAC conformance test 7.1.1.1		
Source: अ	Ericsson		
Work item code: %	TEI Date: 육 2002-02-15		
Category: ₩	FRelease: %REL-4Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99Detailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5		
Reason for change	: ೫ Incorrect TCTF used for DCCH or DTCH over FACH.		
Summary of chang	e: # Used correct TCTF of 11'B instead of padded TCTF 11000000'B		
Consequences if not approved:	[#] Use of padded TCTF may restrict test implementation.		
Clauses affected:	<mark>ቻ 7.1.1.1</mark>		
Other specs affected:	#       Other core specifications       #         Test specifications       O&M Specifications		
Other comments:	# Affects R99 and REL-4		

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# T1-020047

Tdoc T1S-020070

### 7.1.1.1 CCCH mapped to RACH/FACH / Invalid TCTF

### 7.1.1.1.1 Definition

This tests that the MAC applies the correct header to the MAC PDU according to the type of logical channel carried on the RACH/FACH transport channel. Incorrect application of MAC headers would result in inoperation of the UE.

### 7.1.1.1.2 Conformance requirement

### CCCH mapped to RACH/FACH:

- TCTF field is included in MAC header.

TCTF	MAC SDU
------	---------

The following fields are defined for the MAC header:

- Target Channel Type Field

•••

### Coding of the Target Channel Type Field on FACH for FDD

TCTF	Designation		
00	BCCH		
01000000	СССН		
01000001-	Reserved		
01111111	(PDUs with this coding		
	will be discarded by this		
	version of the protocol)		
1000000	СТСН		
1000001-	Reserved		
10111111	(PDUs with this coding		
	will be discarded by this		
	version of the protocol)		
11	DCCH or DTCH		
	over FACH		

#### Reference(s)

TS 25.321 clauses 9.2.1 and 9.2.1.4.

### 7.1.1.1.3 Test purpose

- 1. To verify that the UE discards PDUs with reserved or incorrect values in the TCTF field.
- 2. To verify that the TCTF field is correctly applied when a CCCH is mapped to the RACH/FACH.

### 7.1.1.1.4 Method of test

#### Initial conditions

System Simulator:

1 cell, default parameters, Ciphering Off.

The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for DCCH + SRB for DCCH + SRB for BCCH) with the following exceptions for the FACH:

Higher	RAB/signallin	ng RB	SRB#1	
layer	User of Radi	Test		
RLC	Logical chan	nel type	СССН	
	RLC mode		TM	
	Payload size	s, bit	168	
	Max data rat	e, bps	<u>33600 (alt.</u> 50400) <del>33600)</del>	
	RLC header,	bit	0	
MAC	MAC header	, bit	0 (note)	
MAC	MAC multiple	exing	Simulated by SS	
Layer 1	TrCH type		FACH	
	TB sizes, bit		168	
		TF0, bits	0 x 168	
		TF1, bits	1 x 168	
	165	TF2, bits	2 x 168	
		TF3, bits	N/A (alt. 3 x 168)	
	TTI, ms		10	
	Coding type		CC 1/2	
	CRC, bit		16	
	Max number	of bits/TTI	752 (alt. 1136)	
	before rate m	natching		
	RM attribute		200-240	
NOTE:	The SS MAC layer must be configured not to add a MAC header so that the header can be added by the test case in order to create the necessary invalid values.			

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And using the configuration in TS 34.108 clause 6.10.2.4.3.3 for the PCH.

The TFCS should be configured as specified in clause 6.10.2.4.3.3.1.4.

#### User Equipment:

The UE shall operate under normal test conditions, Ciphering Off.

The Test-USIM shall be inserted.

The SS starts broadcasting the System Information as specified in TS 34.108 clause 6.1, using the configuration for the PRACH and SCCPCH (signalled in SYSTEM INFORMATION 5) as follows:

- 1. The SCCPCH is configured as specified in TS 34.108 clause 6.10.2.4.3.3 (Interactive/Background 32 kbps RAB + SRB for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH).
- 2. The PRACH is configured as specified in TS 34.108 clause 6.10.2.4.4.1.

The SS follows the procedure in TS 34.108 clause 7.2.2.1 (CS UE) or 7.2.2.2 (PS UE) so that the UE shall be in idle mode and registered.

### Test procedure

- a) The SS pages the UE.
- b) The SS waits for the first RRC CONNECTION REQUEST message to arrive on the PRACH/CCCH.
  - c) The SS responds with an RRC CONNECTION SETUP message (specified in TS 34.108 cclause 9: Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH). In this case the SS will transmit the message in 152 bit (note) segments, with a valid UM <u>RRC-RLC</u> header and with the MAC header set as follows:

Field	Value
TCTF	00'B

NOTE: In the case of a 2-bit MAC header the segment shall be padded to the correct length.

- d) The SS waits for retransmission of the RRC CONNECTION REQUEST on the PRACH/CCCH due to expiry of timer T300.
- e) The SS repeats steps c) and d), with the TCTF field set as follows:

Iteration	TCTF Value
2	01000001'B
3	1000000'B
4	1000001'B
5	11 <del>000000</del> 'B

- f) The SS repeats steps c) and d), with the TCTF field set as to 01000000'B.

Expected sequence

Step	Direction	Message	Comments
	UE SS		
1	÷	PAGING TYPE 1	
2	$\rightarrow$	RRC CONNECTION REQUEST	
3	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with incorrect TCTF = 00'B
<b></b>		MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 00'B
	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT n))	Sent with incorrect TCTF = 00'B
4	$\rightarrow$	RRC CONNECTION REQUEST	
5	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 0100
		CONNECTION SETUP SEGMENT 1))	0001'B
	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 2))	Sent with incorrect TCTF = 0100 0001'B
	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 0100
		CONNECTION SETUP SEGMENT n))	0001'B
6	$\rightarrow$	RRC CONNECTION REQUEST	
7	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 1000
		CONNECTION SETUP SEGMENT 1))	0000'B
	÷	MAC PDU(TCTF, UE-ID, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 1000
		CONNECTION SETUP SEGMENT 2))	0000'B
	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 1000
		CONNECTION SETUP SEGMENT n))	0000 [.] B
8	$\rightarrow$	RRC CONNECTION REQUEST	
9	÷	MAC PDU(ICIF, RLC UM PDU(SN, RRC	Sent with incorrect ICIF = 1000
		CONNECTION SETUP SEGMENT 1))	0001 B
	✓	MAC PDU(ICIF, RLC UM PDU(SN, RRC	
		CONNECTION SET OF SEGMENT 2)	0001B
	4		Sent with incorrect TCTE - 1000
	× ×	CONNECTION SETUP SEGMENT b)	
10	$\rightarrow$	RRC CONNECTION REQUEST	00010
11	<i>+</i>	MAC PDU/TCTE_RLC UM PDU/SN_RRC	Sent with incorrect TCTE – 1100
	,	CONNECTION SETUP SEGMENT 1))	<del>0000</del> 'B
	←	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = $\frac{1100}{100}$
	-	CONNECTION SETUP SEGMENT 2))	0000'B
	+	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with incorrect TCTF = 1100
		CONNECTION SETUP SEGMENT n))	<del>0000</del> 'В
12	$\rightarrow$	RRC CONNECTION REQUEST	
13	÷	MAC PDU(TCTF, RLC UM PDU(SN, RRC CONNECTION SETUP SEGMENT 1))	Sent with correct TCTF = 0100 0000'B
	<del>\</del>	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with correct TCTF = 0100
		CONNECTION SETUP SEGMENT 2))	0000'B
	←	MAC PDU(TCTF, RLC UM PDU(SN, RRC	Sent with correct TCTF = 0100
		CONNECTION SETUP SEGMENT n))	0000'B
14	14 $\rightarrow$ RRC CONNECTION SETUP COMPLETE		TCTF Field is recognised as correct for the CCCH

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# Specific Message Contents

None.

### 7.1.1.1.5 Test Requirement

On the first iteration, and on each iteration in step e) the UE should not recognise the RRC CONNECTION SETUP message and therefore should retransmit the RRC CONNECTION REQUEST after each expiry of T300 (the UE should send up to N300=7 RRC CONNECTION REQUESTs before abandoning the procedure).

On the final iteration the UE should respond with an RRC CONNECTION SETUP COMPLETE message.

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For HELP on using this form, see bottom of this page or look at the pop-up text over the % symbols.         Proposed change affects: % (U)SIM ME/UE X Radio Access Network Core Network         Title:       % Corrections to Measurement test cases								
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**Reason for change: #** The use of DPCH₁, DPCH₂ and OCNS are not longer needed.

DL TX power of the SS is defined as CPICH_Ec instead of CPICH_RSCP which is the power received by the UE.

Editorial corrections.

Revision 2 includes corrections from Motorola and Siemens and the corrections are highlighted in blue.

### (from Motorola)

Test purpose of test cases 8.4.1.11, 8.4.1.12 and 8.4.1.13 is to confirm that the UE sends PHYSICAL CHANNEL FAILURE message with the IE "Failure cause" set to "compressed mode runtime error", if it detects a runtime error due to overlapping compressed mode configuration. In these test cases two transmission gap pattern sequences are activated with same measurement purpose "FDD Measurement", according to the IE "TGMP". However as per clause 8.6.6.15 of TS 25.331 (v 3.7.0), the UE will not activate second transmission gap pattern sequence with same measurement purpose, according to the IE "TGMP", if one is already active. In this case the UE will send failure message with cause "Invalid configuration".

As per clause 8.6.7.1 of TS 25.331 (v 3.7.0), the UE will send MEASREMENT CONTROL FAILURE message with failure cause "Configuration incomplete", if the validity of Traffic volume measurement is set to "All states" but the IE "Traffic volume

### 3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21st –22nd February 2002

	measurement object" has not been included in measurement control information			
Summary of change: #	General			
	• Clause 8.4 to describe the use of DPCH ₁ , DPCH ₂ and OCNS are removed.			
	• In all tables 8.4.1.X-1, all entries labeled CPICH RSCP are revised to CPICH Ec since these tables specify the DL TX power configured by SS, instead of the Rx power received by UE. All values are revised to be consistent with clause 8.1, 8.2 and 8.3.			
	• In clauses 8.4.1.5 to 8.4.1.8, the initial conditions of the UE are revised to start from CELL_DCH or CELL_FACH state detailed in TS 34.108 clause 7.4. This is done to avoid the necessity of having to describe NAS test steps in the respective test cases. The affected test steps and messages in specific message content sub-clauses are revised and deleted.			
	• All conformance requirement and test purpose sub-clauses are revised to make the descriptions closer to what are described in the core specifications.			
	• For all occurrences, the values of IE "intra-frequency cell id" or IE "inter-frequency cell id" in the specific message content sub-clauses are revised. The values of these IE are revised from "Set to id of cell X" to "X".			
	• CPICH_Ec should have the unit of dBm/3.84MHz.			
	Clause 8.4.1.1			
	Specific message contents			
	<ol> <li>SIB 11 (Step 1): IE "Intra-frequency measurement for RACH" and IE "Maximum number of reported cells on RACH" are set to "Not Present" since reporting on RACH are not required.</li> </ol>			
	2. SIB 11 (Step 1): IE "Measurement reporting mode" is missing and proposed to be added.			
	3. MEASUREMENT CONTROL (Step 7): "Measurement identity" IE should have value "1".			
	<ol> <li>MEASUREMENT REPORT (Step 10): "Measurement identity" IE should be set to "1" by the UE, following the proposed modifications in point 3 above. IE "Additional measured results" should be checked to be absent.</li> </ol>			
	Test requirement			
	<ol> <li>The second requirement statement is revised to identify which MEASUREMENT CONTROL message it refers to.</li> </ol>			
	2. The third requirement state is revised to specify that UE shall also include "Event results" in MEASUREMENT REPORT messages.			
	(from Siemens)			
	Step 11 to 14 are added to include measurement event 1b.			
	Clause 8.4.1.2			
	Expected Sequence			
	1. Step 1: Changes to RRC CONNECTION SETUP message are explicitly stated.			
	Specific message contents			

- 1. SIB 11 (Step 1): IE "Inter-frequency measurement identity" is deleted it has been removed in the core specifications.
- 2. MEASUREMENT CONTROL (Step 9 and Step 11): IE "Frequency quality estimate" is set to "FALSE". The misaligned rows are re-adjusted.
- 3. MEASUREMENT REPORT (Step 10 and Step 12): IE "Additional measured results" should be checked that it is absent.

#### Clause 8.4.1.3

- Reference
  - 1. Reference to clause 8.4.1.7 of TS 25.331 v370 is added.
- Test Procedure
  - 1. UTRA RF Channel Number for Cell 2 should be "Ch. 1" instead of "Ch. 2" according to clause 6.1 of TS 34.108.
  - 2. Reporting interval after step 10 is change to 16 seconds.
- Specific message contents
  - SIB 11 (Step 1): IE "CHOICE reporting criteria" should have been set to "intrafrequency measurement reporting criteria" instead of "periodical reporting criteria". IE "Triggering condition 2" is set to "Active set cells". IE "Reporting interval" is set to 16 seconds as 12 seconds is not in the list.
  - 2. CELL UPDATE (Step 7): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).
  - 3. MEASUREMENT REPORT (Step 11): IE "Event Results" should be present and that UE shall report the triggering of event type "1a" in this message.
- Test requirement
  - 1. The first requirement statement is deleted since it's checked during pre-amble (through basic generic procedures to bring UE to initial state 6-11).
  - 2. The content of CELL UPDATE expected in third requirement statement is clarified.
  - 3. The fourth requirement statement is revised to include "Event results" IE.

### Clause 8.4.1.4

- Specific message contents
  - 1. SIB 11 (Step 1): IE "Inter-frequency measurement identity" is deleted it has been removed in the core specifications.
  - 2. CELL UPDATE (Step 7): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

#### Clause 8.4.1.5

- Conformance requirement and Test Purpose:
  - 1. It is needed to clarify that the UE applies the reporting criteria in IE "intra-

frequency reporting criteria" received in SIB 11 or 12 upon a transition from CELL_FACH to CELL_DCH, only if there exists no intra-frequency measurement control information applicable to the UE in CELL_DCH state.

- Test Purpose:
  - 1. Clarified that SS shall receive the MEASUREMENT REPORT messages at 8 seconds interval, but these messages shall not contain all measurement readings for cell 3 in IE "Measured results".
- Expected sequence:
  - 1. Step 10: PAGING TYPE 1 message is replaced by SYSTEM INFORMATION CHANGE INDICATION message.
- Specific message contents:
  - 1. MEASUREMENT REPORT (Step 6): The absence of IE "Additional measure result list" should be checked explicitly.
  - 2. CELL UPDATE (Step 11): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).

### Clause 8.4.1.6

- Test Purpose:
  - 1. The sentence "This requirement shall be observed even if the UE has detected that the inter-frequency measurement reporting criteria have been satisfied in CELL_FACH state" are not necessary.
- Test Procedure:
  - 1. In the last paragraph, it is explicitly stated that UE shall not transmit MEASUREMENT REPORT after transiting to CELL_FACH state.
  - 2. It is clarifird that the TBD value shall be calculated using the references provided.
- Specific Message Contents:
  - 1. MEASUREMENT CONTROL (Step 8): IE "Frequency quality estimate" is set to "FALSE". IE "Measurement validity" should be set to "CELL_DCH", else the measurement control information in "measurement identity" = "15" will be deleted after a state transition.
  - 2. SIB 11 (Step 12): Default value for IE "Cell individual offset" needs not be specified. IE "TX diversity indicator" is missing.
  - 3. CELL UPDATE (Step 15): The text to specify that value of IE "U-RNTI" is revised to be consistent with the proposed initial condition of the UE (starting from state 6-11).
- Test requirement:
  - 1. The first requirement statement is deleted since it's checked during pre-amble (through basic generic procedures to bring UE to initial state 6-11).

#### Clause 8.4.1.7

• Conformance Requirements and Test Procedure:

- 1. The conformance statement is revised to include the description of "measurement validity" IE.
- 2. It is specified explicitly that UE continues to monitor the list of cells in "intrafrequency cell info" IE in SIB 11 or 12 only if there's no stored intra-frequency measurements applicable in CELL_DCH state.
- 3. It is specified explicitly that UE reports according to the reporting criteria in IE "intra-frequency measurement reporting criteria".
- Test Procedure:
  - 1. In the last sentence of the third paragraph, the MEASUREMENT CONTROL message sent by the SS should be identical to step 5, instead of step 10.
- Expected sequence:
  - MEASUREMENT CONTROL (Step 15): The semantic description is revised to clearly specify that measurement control information for "measurement identity" = 12 should be terminated.
- Specific Message Contents:
  - 1. SIB 12 (Step 1): Descriptions to use default values for IE "Cell selection and reselection info" is not needed.
  - 2. MEASUREMENT REPORT (Step 4): IE "Additional measured results" is checked explicitly for its absence.
  - 3. MEASUREMENT CONTROL (Step 5 and 17): IE "Measurement identity" should be set to "10" instead of "11", else it will result in 2 parallel measurement tasks. IE "Reporting threshold" has been renamed to "Threshold used frequency". Row misalignment has been corrected.
  - 4. MEASUREMENT REPORT (Step 6): IE "Additional measured results" is checked explicitly for its absence. Requirement for IE "Measured Results on RACH" is missing.
  - 5. MEASUREMENT CONTROL (Step 10): IE "Reporting threshold" has been renamed to "Threshold used frequency". Row misalignment has been corrected.
  - 6. MEASUREMENT REPORT (Step 14): IE "Additional measured results" is checked explicitly for its absence.
  - 7. SIB 12 (Step 21): Value "13" is incorrectly positioned in the "value/remark" column

#### Clause 8.4.1.8

- Conformance Requirements and Test Procedure:
  - 1. Text descriptions are revised to include the requirements pertaining to IE "measurement validity".
- Reference:
  - 1. Reference to clause 8.4.1.3 to TS 25.331 v370 is added.
- Test Procedure:
  - 1. In the last sentence of the third paragraph, the MEASUREMENT CONTROL message sent by the SS should be identical to step 5, instead of step 10.

- Specific Message Contents:
  - MEASUREMENT CONTROL (Step 2): IE "reporting cell status" should contain some value, else UE will not report any values in IE "Cell measured results" in MEASUREMENT REPORT message of step 10.
  - 2. MEASUREMENT CONTROL (Step 11): IE "Frequency quality estimate" is set to "FALSE".
  - 3. MEASUREMENT CONTROL (Step 15): IE "Measurement identity" should be set to 14. Any other values except 14 will cause a protocol error since IE "Measurement command" is set to "Modify".
- Test requirement:
  - 1. The second requirement is revised to specify that IE "Event results" should be present to report the triggering of event "2c".
  - 2. The content of MEASUREMENT REPORT message in the fifth requirement should be identical to that in step 11 instead of step 9.

### Clause 8.4.1.9

- Test Procedure:
  - 1. Text descriptions ".. the UE under test does not support inter-RAT measurement" are not necessary. This condition is specified in applicability statement of TS 34.123-2.
- Specific Message Contents:
  - 1. MEASUREMENT CONTROL (Step 2): Value "Not present" in IE "Measurement reporting mode" is deleted.
- Test requirement:
  - 1. A new test requirement paragraph is added to check that UE reports readings of UL transmitted power periodically at 1 second interval.
  - 2. In the first test requirement, descriptions pertaining to the requirement that UE shall identify unsupported measurement element in MEASUREMENT CONTROL message is not necessary.

Note: The IXIT statements in TS 34.123-2 should reflect the test applicability for this test case – only UE without inter-RAT measurement capability needs to execute this test case.

### Clause 8.4.1.10

- Reference
  - 1. The correct reference should be clause 9.2 of TS 25.331 v370.
- Conformance requirements and test purpose:
  - 1. The descriptions are revised to state that UE continues its ongoing procedures and processes in general, rather than only not changing measurement configurations.
- Specific Message Contents:
  - 1. MEASUREMENT CONTROL (Step 4): Use the standard invalid message (only

"Message Type" IE is present) as agreed in previous T1/SIG meetings.

- MEASUREMENT CONTROL FAILURE (Step 5): The value of IE "RRC transaction identifier" is not checked since this IE cannot be determined by the UE when it receives the invalid MEASUREMENT CONTROL message in step 4. The value of IE "protocol error information" is revised to "ASN.1 violation or encoding error".
- Test requirement:
  - 1. The first requirement paragraph is revised to check that UE sends MEASUREMENT CONTROL FAILURE message with IE "protocol error information" set to "ASN.1 violation or encoding error".

Clauses 8.4.1.11, 8.4.1.12 and 8.4.1.13

- Conformance requirement:
  - 1. Explanation of the nature of runtime error is not needed.
- Reference
  - 1. The reference is revised to clause 8.2.11.2 of TS 25.331 v370.
- Test procedure:
  - 1. It is clarified in the first paragraph that UE reports the RSSI value of the UTRA carrier on which cell 4 resides, instead of measurement reading of cell 4 itself.
  - 2. The descriptions relating to the expected UE behaviour on the detection of runtime error due to overlapping compressed mode configuration is not necessary.
- Expected Sequence:
  - 1. MEASUREMENT CONTROL (Step 4): The semantic description is clarified to indicate that IE "TGPSI status flag" is set to "Inactive".
- Specific Message Contents:
  - 1. MEASUREMENT CONTROL (Step 2): Row misalignment is corrected. IE "Frequency quality estimate" is set to "FALSE".
- Test requirement:
  - 1. Clarified that the MEASUREMENT REPORT messages sent by UE after step 7 should not contain IE CPICH RSCP readings for cell 4.

#### Clauses 8.4.1.14

- Test Purpose:
  - 1. The current test purpose statement is not unclear about the exact requirement. It is revised to state that a particular P-CPICH is forbidden to affect the reporting range.
- Test Procedure and Expected Sequence:
  - 1. SS's DL TX power configuration in table 8.4.1.14-1 is simplified. Instant "T4" is not longer needed.
  - 2. The test sequence is re-designed. The main points are summarized below:
    - > The execution of active set update procedures is re-arranged to be after the

reporting of monitored cells (cell 2 and cell 3). This presents a more realistic picture of the soft handover sequence.

- Test step 10 is revised to verify that UE detects that cell 2 has entered the reporting range.
- > To test that UE ignores that cell 2's CPICH is forbidden to affect the reporting range, new test steps (Steps 14 and 15 are introduced).
- Specific Message Contents
  - SIB Type 11 (step 1): IE "<u>CPICH RSCP reporting indicator</u>" under active set cell is set to 'FALSE' whereas IE "<u>CPICH RSCP reporting indicator</u>" under monitor set cell is set to 'TRUE'.
  - 2. Step 2 (ACTIVE SETUP UPDATE), Step 3 (ACTIVE SETUP UPDATE COMPLETE): Deleted due to rearrangement of active set update procedure after transmission of MEASUREMENT CONTROL messages.
  - 3. MEASUREMENT CONTROL (Step 5): Cell id should start from 1 instead of 0 in the current test settings. IE "Reporting cell status" in IE "CHOICE reporting criteria" should be present, else IE "Cell measured results" will be omitted in the corresponding MEASUREMENT REPORT message. IE "Triggering conditions 2" should include cells from monitored set since cell 2 and cell 3 are not yet included in active set.
  - 4. MEASUREMENT REPORT (Step 10): SS checks that UE sends this message to report triggering of event 1a due to cell 2 entering the reporting range.
  - 5. Step 10a (ACTIVE SETUP UPDATE), Step 10b (ACTIVE SETUP UPDATE COMPLETE): These message exchanges are added so that UE will include cell 2 into active set.
  - 6. MEASUREMENT CONTROL (Step 11): IE "Reporting cell status" in IE "CHOICE reporting criteria" should be present, else IE "Cell measured results" will be omitted in the MEASUREMENT REPORT message in step 15.
- 7. MEASUREMENT REPORT (Step 15): SS checks that UE sends this message to report triggering of event 1a due to cell 3 entering the reporting range.
- Test Requirement:
  - 1. All existing test requirements for ACTIVE SET UPDATE COMPLETE are deleted, since validating the correctness of active set update procedure is not the main objective of the test case.
  - 2. Existing descriptive texts "the UE shall ignore the restriction imposed for the updating of reporting range …" are not necessary.
  - 3. Requirements relating to the reception of MEASUREMENT REPORT are revised to center on the checking of IE "Event results" rather than IE "Measured results". This is because the later IE cannot be used to formally confirm which cell has caused event 1A to trigger.

### (from Motorola)

In test cases 8.4.1.11, 8.4.1.12 and 8.4.1.13, second transmission gap pattern is activated for "GSM Carrier RSSI Measurement".

In test cases 8.4.1.18, 8.4.1.19 1nd 8.4.1.20, the IE "Traffic volume measurement object" is included in control information of Traffic volume measurement having validity "All states"

Consequences if not approved:	# The UE cannot be test correctly.
Clauses affected:	¥ 8.4
Other specs affected:	%       Other core specifications       %         Test specifications          O&M Specifications
Other comments:	# Affects R'99 and R'4 UE test cases.

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# Start of modification

# 8.4 Measurement procedure

For all test cases in the following clauses, SS configures the downlink transmission power for various cells according to table 6.1.3 of [9] unless otherwise stated explicitly in the following clauses. The distribution of the total downlink power from a cell (I_{or}) into its respective downlink physical channels (e.g. DPCH, CPICH, P-CCPCH) shall follow the settings defined in table 6.1.4 of [9]. The use of a noise source in SS (such as AWGN) is not necessary for all test cases in the following clauses. Similarly, the application of OCNS facility to simulate the interference effects of other uses or control signals on the other orthogonal channels of the downlink is not needed.

# 8.4.1 Measurement Control and Report

- 8.4.1.1 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state
- 8.4.1.1.1 Definition

### 8.4.1.1.2 Conformance requirement

After Upon a state transition from idle mode to CELL_DCH state, the UE shall <u>begin or</u> continue to monitor the list of neighbouring cells which assigned in the IE "intra-frequency cell info list" which is specified in System Information Block type 11 or 12 messages on BCCH. When entering CELL_DCH state, the UE shall send a-MEASUREMENT REPORT message(s) when the condition(s) in "intra-frequency measurement reporting criteria" IE received are satisfiedfulfilled. During In CELL_DCH state, if the UE receives a MEASUREMENT CONTROL message, which contains a "measurement identity" IE similar in value to the "intra-frequency measurement identity" in System Information Block Type 11 or 12 message, it shall terminate existing monitoring activities for the neighbouring cells previously known from System Information Block type 11 or 12 messages. It shall perform the measurement and reporting tasks based on the latest MEASUREMENT CONTROL message received.

### Reference

3GPP TS 25.331 clause 8.4.1.8.1, 8.4.1.3

### 8.4.1.1.3 Test Purpose

To confirm that the UE continues to monitor intra-frequency measurement quantity of the neighbour-cells listed in System Information Block type 11 or 12 messages, after it has entered the CELL_DCH state from idle mode. When the intra-frequency measurement reporting criteria specified in System Information Block type 11 or 12 messages have been met, it shall report the measurements using MEASUREMENT REPORT message(s). To confirm that the UE terminates monitoring and reporting activities for the neighbour cells found_listed in "intra-frequency cell info list" IE in System Information Block type 11 or 12 messages, after it has received a MEASUREMENT CONTROL message that specifies the measurement type to be "intra-frequency measurement" with the same measurement identity in System Information Block Type 11 or 12 messages. To confirm that the UE reconfigures the monitoring and reporting activities based on the last MEASUREMENT CONTROL message received.

### 8.4.1.1.4 Method of test

### Initial Condition

System Simulator: 2 cells – <u>Cell 1 and cell 2 are active</u>. The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.1 1. The table is found in "Test Procedure" clause.

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

### **Test Procedure**

Table 8.4.1.1-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Parameter	Unit	Cell 1			Cell 2		
		T0	T1	T2	T0	T1	<b>T2</b>
UTRA RF Channel Number			Ch. 1			Ch. 1	
CPICH <u>Ec<mark>RSCP</mark></u>	dBm <u>/</u> <u>3.84</u> MHz	- <del>66<u>-60</u></del>	-74 <u>-</u> <u>60</u>	<mark>-60</mark>	- <del>69<u>-70</u></del>	- <mark>81-</mark> <u>80</u>	<mark>-60</mark>

Table 8.4.1.1-1

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters in the modified System Information Block message are as follow: measurement type = "intra-frequency measurement", measurement quantity = "CPICH RSCP", report criteria = "periodic reporting criteria", reporting interval = "12-64 seconds".

SS prompts the operator to make an outgoing call of a supported traffic class. <u>SS and UE shall execute procedure P3</u> (for CS service) or P5 (for PS service). Next SS and UE shall execute procedure P7 (for CS service) or P9 (for PS service). Then SS and UE shall execute procedure P11 (for CS service) or P13 (for PS service). The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink dedicated physical resources to the UE. UE shall then transmit RRC CONNECTION <u>SETUP COMPLETE message and move to CELL_DCH state. The UE shall send a MEASUREMENT REPORT message after reaching CELL_DCH state, reporting cell 2's CPICH RSCP value. After <u>64 seconds has passed since SS receives the first MEASUREMENT REPORT message approximately 12 seconds</u>, the UE shall transmit a <u>second</u> MEASUREMENT REPORT message to verify that 2 consecutive MEASUREMENT REPORT messages are received.</u>

SS sends a MEASUREMENT CONTROL message on the downlink DCCH. In this message, SS assigns an intrafrequency measurement type with the measurement quantity based on cell 2's CPICH RSCP value. Parameters used in this message are: measurement identity = " $\underline{1}$ 2", report criteria = "event-trigger", event identity = "1f", reporting threshold = "-705 dBm". After receiving this message, the UE shall delete the existing measurement and reporting contexts captured from System Information Block type 11 messages. SS checks to see that no MEASUREMENT REPORT messages are sent within the next  $\underline{12-64}$  seconds (which is due to periodic reporting). SS reconfigures the downlink transmission power settings according to values in column "T1" in Table 8.4.1.1-1. The UE shall transmit a MEASUREMENT REPORT message when it detects that the CPICH RSCP of cell 2 has reached the threshold value specified in MEASUREMENT CONTROL message.

SS reconfigures the downlink transmission power settings according to values in column "T2" in Table 8.4.1.1-1. SS sends a new MEASUREMENT CONTROL message on the downlink DCCH. In this message, SS assigns an intrafrequency measurement type with the measurement quantity based on cell 2's CPICH RSCP value. Parameters used in this message are:

<u>measurement identity = "1", report criteria = "event-trigger", event identity = "1B", Reporting range 8db. SS</u> reconfigures the downlink transmission power settings according to values in column "T0" in table 8.4.1.1-1. The UE shall transmit a MEASUREMENT REPORT message when it detects that the condition for event 1b is fulfilled.

# Expected Sequence

|

Step	Direction UE SS		Message	Comment
1	<i></i>		System Information Block type 11	The UE is idle mode and camped onto cell 1. The System Information Block type 11 messages to be transmitted are different from the default settings (see specific message contents)
2	↔		SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	SS prompts the operator to make an outgoing call.
3	↔	-	<u>SS executes procedure P7 (clause</u> 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.RRC CONNECTION REQUEST <u>Void</u>	
4	↔	-	SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.RRC CONNECTION SETUPVoid	SS allocates dedicated physical channels to UE
5	÷		RRC CONNECTION COMPLETEVoid	UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_DCH state.
<u>6</u>	<u></u>		MEASUREMENT REPORT	SS waits 64 seconds
6 <u>a</u>	$\rightarrow$		MEASUREMENT REPORT	SS waits for 25 seconds. It shall receive 2-consecutive MEASUREMENT REPORT messages at 64 seconds interval.
7	÷		MEASUREMENT CONTROL	A new-measurement with "measurement identity" IE set to "1" is assigned, with the IE "CHOICE reporting criteria" set to "intra-frequency measurement reporting criteria" reporting quantity changed to cell 2's CPICH RSCP. See specific message content for the rest of the message.
8				SS waits for approximately 1564 seconds and verifies that no further MEASUREMENT REPORT messages are detected on the uplink DCCH.
9				SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-1.
10	<b>→</b>		MEASUREMENT REPORT	SS verifies that UE transmits a MEASUREMENT REPORT message to report the <del>P</del> - CPICH RSCP value of cell 2.

Step	Direction UE SS		ep Direction UE SS 1 2 S		Direction Message			Comment
<u>11</u>						SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-2		
<u>12</u>					MEASUREMENT CONTROL	A measurement with "measurement identity" IE set to "1" is assigned, with the IE "CHOICE reporting criteria" set to "intra-frequency measurement reporting criteria". See specific message content for the rest of the message.		
<u>13</u>				SS re-adjusts the downlink transmission power settings according to columns "T1" in Table 8.4.1.1-3 and awits 5 seconds				
<u>14</u>	1	2	MEASUREMENT REPORT	SS verifies that UE transmits a MEASUREMENT REPORT message to report occurrence of event 1b.				

### Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:
System Information Block type 11 (Step 1)

Information Element	Value/Remark		
SIB12 indicator	FALSE		
FACH measurement occasion info	Not Present		
Measurement control system information	Norriesent		
- Intra-frequency measurement system			
information			
Intornation	1		
- Intra-frequency measurement identity			
- Intra-frequency cell into list			
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells		
- New intra-frequency info list			
- Intra-frequency cell id	Set to id of cell 2		
- Cell info			
- Cell individual offset	0 dB		
<ul> <li>Reference time difference to cell</li> </ul>	256 chips		
- Read SFN Indicator	FALSE		
- CHOICE Mode	FDD		
- Primary CPICH Info			
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as used for cell 2		
<ul> <li>Primary CPICH TX power</li> </ul>	Not Present		
- TX Diversity Indicator	FALSE		
<ul> <li>Cell selection and Re-selection</li> </ul>			
- Qoffset _{s.n}	0dB		
<ul> <li>Maximum allowed UL TX power</li> </ul>	+33dBm		
<ul> <li>HCS neighbouring cell information</li> </ul>	Not Present		
- Qqualmin	<del>-115</del> -8020dB		
- Qrxlevmin	-20-24115dBm		
- Cells for measurement	Not Present		
- Intra-frequency measurement quantity			
- Filter Coefficient	0		
<ul> <li>Measurement quantity</li> </ul>	CPICH RSCP		
- Intra-frequency measurement for RACH	Not Present		
reporting			
- SFN-SFN observed time difference	No report		
	No report		
- Maximum number of reported cells on RACH	No reportNot Present		
<ul> <li>Reporting information for state CELL_DCH</li> </ul>			
- Intra-frequency reporting quantity			
- Reporting quantities for active set cells			
- SFN-SFN observed time difference reporting	No report		
indicator			
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE		
indicator			
<ul> <li>Cell identity reporting indicator</li> </ul>	FALSE		
<ul> <li>CPICH Ec/No reporting indicator</li> </ul>	FALSE		
<ul> <li>CPICH RSCP reporting indicator</li> </ul>	FALSE		
- Pathloss reporting indicator	FALSE		
<ul> <li>Reporting quantities for monitored set cells</li> </ul>			
- SFN-SFN observed time difference reporting	No report		
indicator			
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE		
indicator			
<ul> <li>Cell identity reporting indicator</li> </ul>	TRUE		
<ul> <li>CPICH Ec/No reporting indicator</li> </ul>	FALSE		
<ul> <li>CPICH RSCP reporting indicator</li> </ul>	TRUE		
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE		
<ul> <li>Reporting quantities for detected cells</li> </ul>	Not present		
<ul> <li>Measurement Reporting Mode</li> </ul>			
<ul> <li>Measurement Report Transfer Mode</li> </ul>	Acknowledged mode RLC		
- Periodical Reporting / Event Trigger	Periodical reporting		
Reporting Mode			
- CHOICE report criteria	Periodic reporting criteria		
- Amount of reporting	Infinity		
- Reporting interval	12-64 seconds		
<ul> <li>Inter-frequency measurement system</li> </ul>	Not present		
information			
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present		

<ul> <li>Traffic volume measurement system</li> </ul>	Not Present
information	
- UE internal measurement system information	Not Present

# RRC CONNECTION REQUEST (Step 3)

Information Element	Value/Remarks	
Establishment cause	Check to see if set to originating call of a	
	supported traffic class	
Measured results on RACH	Check to see if this IE is absent	

# RRC CONNECTION SETUP (Step 4)

Use the message found in clause 9 of TS 34.108.

# MEASUREMENT REPORT (Step 6 and 6a)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

# MEASUREMENT CONTROL (Step 7)

|

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Information Element	Value/Remark	
Measurement Identity	<u>1</u> 2	
Measurement Command	Setup	
Measurement Reporting Mode		
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC	
- Periodic Reporting / Event Trigger Reporting	Event Trigger	
Mode		
Additional measurements list	Not Present	
CHOICE measurement type	Intra-frequency measurement	
- Intra-frequency cell info list		
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells	
<ul> <li>New intra-frequency info list</li> </ul>		
- Intra-frequency cell id	Set to id of cell 2	
- Cell info		
<ul> <li>Cell individual offset</li> </ul>	0 dB	
<ul> <li>Reference time difference to cell</li> </ul>	256 chips	
<ul> <li>Read SFN Indicator</li> </ul>	FALSE	
- CHOICE mode	FDD	
- Primary CPICH Info		
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as used for cell 2	
- Primary CPICH TX power	Not Present	
- TX Diversity Indicator	FALSE	
- Cell <u>s</u> for measurement		
- Intra-frequency cell id	Set to id of cell 2	
- Intra-frequency measurement quantity		
- Filter Coefficient		
- Measurement quantity	CPICH RSCP	
- Intra-frequency reporting quantity	Come es in default massage content	
- Reporting quantities for active set cells	Same as in default message content	
- SFN-SFN Observed time difference reporting	No report	
Coll experience information reporting	EALSE	
- Cell Synchronisation information reporting	FALSE	
- Cell identity reporting indicator	EALSE	
- CPICH Ec/No reporting indicator	FALSE	
- CPICH RSCP reporting indicator	FALSE	
- Pathloss reporting indicator	FALSE	
- Reporting quantities for monitored set cells		
- SFN-SFN observed time difference reporting	No report	
indicator		
- Cell synchronisation information reporting	FALSE	
indicator		
<ul> <li>Cell identity reporting indicator</li> </ul>	TRUE	
- CPICH Ec/No reporting indicator	FALSE	
- CPICH RSCP reporting indicator	TRUE	
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE	
<ul> <li>Reporting quantities for detected cells</li> </ul>	Not present	
- Reporting cell status	Not Present	
	Not present	
<ul> <li>Measurement validity</li> </ul>	Intra-frequency measurement reporting criteria	
- CHOICE report criteria		
- Parameters required for each events		
- Intra-frequency event identity	1f	
- Triggering condition 1	Monitored set cells	
- Triggering condition 2	Not Present	
- Reporting range	Not Present	
- Cells forbidden to affect reporting range	Not Present	
- VV		
- mysteriesis Threshold used frequency	705 dBm	
- Theshold used frequency Reporting deactivation threshold		
- Replacement activation threshold	Not Present	
- Time to trigger	1 mor riesell	
- Amount of reporting	Not Present	
- Reporting interval	Not Present	
- Reporting cell status		

Information Element	Value/Remark
- CHOICE reported cell	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
<ul> <li>Maximum number of reported cells</li> </ul>	2
DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT (Step 10)

	Information Element	Value/Remarks		
	Measurement identity	Check to see if set to 12		
	Measured Results			
	- CHOICE measurement	Check to see if set to "Intra-frequency		
		measured results list"		
	<ul> <li>Intra-frequency measurement results</li> </ul>			
	- Cell measured results			
	- Cell Identity	Check to see if it is absent		
	- SFN-SFN observed time difference	Check to see if this IE is absent		
	<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent		
	- Primary CPICH Info			
	- Primary Scrambling Code	Check to see if it's the same code for cell 2		
	- CPICH Ec/No	Check to see if this IE is absent		
	- CPICH RSCP	Check to see if this IE is present		
	- Pathloss	Check to see if this IE is absent		
1	Measured Results on RACH	Check to see if this IE is absent		
	Additional Measured Results	Check to see if this IE is absent		
	Event Results			
	<ul> <li>CHOICE event result</li> </ul>	Check to see if this IE is set to "Intra-frequency		
		measurement event results"		
	<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if this IE is set to "1f"		
	<ul> <li>Cell measured event results</li> </ul>			
	- CHOICE mode	Check to see if this IE is set to "FDD"		
	<ul> <li>Primary CPICH info</li> </ul>			
	<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2		
	A SUDEMENT CONTROL (Stop 12)			
	ASONEMENT CONTROL (Step 12)			
	Information Element	Value/Remark		
	Measurement Identity	1		

Information Element	<u>value/Remark</u>
Measurement Identity	<mark>1</mark>
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Event Trigger
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
<ul> <li>Intra-frequency cell info list</li> </ul>	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
<ul> <li>Intra-frequency cell id</li> </ul>	<u>2</u>
- Cell info	
<ul> <li>Cell individual offset</li> </ul>	<u>0 dB</u>
<ul> <li>Reference time difference to cell</li> </ul>	256 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Intra-frequency cell id	Set to id of cell 2
- Intra-trequency measurement quantity	
- Filter Coefficient	
- Measurement quantity	<u>CPICH RSCP</u>
<ul> <li>Intra-trequency reporting quantity</li> </ul>	
- Reporting quantities for active set cells	Same as in default message content
- SEN-SEN Observed time difference reporting	
Coll synchronization information reporting	
- Cell synchronisation mormation reporting	TALSE
Coll identity reporting indicator	
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SEN-SEN observed time difference reporting	No report

	Information Element	Value/Remark
indica	tor	
- Cell s	synchronisation information reporting	FALSE
indic	ator	
- Cell i	dentity reporting indicator	FALSE
- CPIC	H Ec/No reporting indicator	FALSE
- CPIC	H RSCP reporting indicator	FALSE
- Pathl	oss reporting indicator	FALSE
- Repor	ting quantities for detected cells	Not present
- Report	ting cell status	Not Present
- Measu	rement validity	Not present
- CHOIC	<u>CE report criteria</u>	Intra-frequency measurement reporting criteria
- Param	neters required for each events	
- Intra-	frequency event identity	1 <u>b</u>
- Trigg	ering condition 1	Monitored Cells
- Trigg	ering condition 2	Not Present
- Repo	rting range	8 dB
- Cells	forbidden to affect reporting range	Not Present
- VV		<u>0</u>
- Hyste	eresis	0 dB
- Three	shold used frequency	Not Present
- Repo	rting deactivation threshold	Not Present
- Repla	acement activation threshold	Not Present
- Time	to trigger	<u>5000 msec</u>
- Amou	unt of reporting	Not Present
- Repo	rting interval	Not Present
- Repo	rting cell status	Not Present
DPCH co	ompressed mode status info	Not Present
MEASUREMEN	JT REPORT (Step 14)	
	Information Element	Value/Remarks
Measuremen	nt identity	Check to see if set to 1
Measured R	esults	Check to see if this IE is absent
Measured R	esults on RACH	Check to see if this IE is absent
Additional M	easured Results	Check to see if this IE is absent
Event Result	ts	
- <u>CHC</u>	DICE event result	
- Intr	a-frequency event identity	Check to see if this IE is set to "1b"
Cal	I measured exect regults	

- Primary Scrambling Code Check to see

## 8.4.1.1.5 Test Requirement

· CHOICE mode

- Primary CPICH info

After step 5 the UE shall start to transmit <u>2</u>MEASUREMENT REPORT messages at <u>64 seconds interval</u>. The measurement quantity "CPICH RSCP" of cell 2 shall be reported in these messages to the <u>SS at 12 seconds interval</u>.

eck to see if this IE is set to "FDD"

the same

After step 7 the UE shall not transmit any MEASUREMENT REPORT messages within <u>15-64</u> seconds after SS has transmitted the MEASUREMENT CONTROL message in step 7.

After step 9 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, to report that the CPICH RSCP value for cell 2 has dropped below the threshold stated in the MEASUREMENT CONTROL message transmitted by the SS in step 7. <u>This MEASUREMENT REPORT message shall also contain IE "Event results"</u>, indicating the triggering of event '1f'.

In step 12 SS transmits a new Measurement Control message. In the following the UE shall transmit a MEASURMEASUREMENT REPORT message depending on the re-adjustment of CPICH downlink transmission power in both cells containing IE "Event results", indicating the triggering of event '1b'.

# 8.4.1.2 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state

8.4.1.2.1 Definition

## 8.4.1.2.2 Conformance requirement

After entering CELL_DCH state from idle mode, the UE shall <u>discontinue thestop</u> monitoring <u>of</u> the list of <u>neighbouring</u> cells assigned <u>in the IE "inter-frequency cell info" IE</u> in System Information Block 11 or 12 messages. In CELL_DCH state, when the UE receives a MEASUREMENT CONTROL message requesting for <u>a measurement of</u> inter-frequency measurement <u>type</u> to be setup, it shall start inter-frequency measurement and the associated reporting activities if "DPCH compressed mode status info" IE in the message simultaneously activates at least one compressed mode pattern sequence. When the UE receives a MEASUREMENT CONTROL message with "Reporting cell status" IE omitted, it shall not include "Cell measured results" IE for any cells in MEASUREMENT REPORT messages sent on uplink DCCH.

#### Reference

3GPP TS 25.331 clauses 8.4.1.3, 8.4.1.8.2 and 8.6.7.9

#### 8.4.1.2.3 Test Purpose

To confirm that the UE stops monitoring the list of neighbouring cells assigned in the IE "inter-frequency cell info" in System Information Block type 11 messages, after it enters CELL_DCH state from idle mode. To confirm that the UE starts to perform inter-frequency measurement and related reporting activities, when it receives a MEASUREMENT CONTROL message with the "DPCH compress mode status info" IE indicating that a stored compressed mode pattern sequence be simultaneously activated. To confirm that the UE excludes the IE "cell measured results" for any cells in the MEASUREMENT REPORT messages, after it receives a MEASUREMENT CONTROL message with "Reporting cell status" IE omitted.

#### 8.4.1.2.4 Method of test

**Initial Condition** 

System Simulator: 2 cells – <u>Cell 1 and cell 4 are active</u>. The initial configurations of the 2 cells in the SS shall follow the values indicated in table 8.4.1.2 1. The table is found in "Test Procedure" clause.

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

#### Test Procedure

Table 8.4.1.2-1 illustrates the downlink power to be applied for the 2 cells.

la	ble	8.4.1	.2-1

Parameter	Unit	Cell 1	Cell 4
UTRA RF		Ch. 1	Ch. 2
Channel Number			
CPICH RSCPEc	dBm/	-74 <u>60</u>	- <del>78<u>75</u></del>
	<u>3.84</u>		
	MHz		

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information", and also to include cell 4 into the monitored neighbour <u>"inter-frequency</u> cells <u>info</u> list<u>" IE</u>.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. <u>SS and UE shall</u> execute procedure P3 (for CS service) or P5 (for PS service). The UE shall transmit a RRC CONNECTION REQUEST

message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink dedicated physical resources to the UE. The RRC CONNECTION SETUP message used in procedure P3 or P5 should contains IE "DPCH compressed mode info", signifying the establishment of aactivating the transmission pattern gap sequence with TGPSI=1.-UE shall send RRC CONNECTION SETUP COMPLETE on the uplink DCCH and then moves to CELL_DCH state. Next SS and UE shall execute procedure P7 (for CS service) or P9 (for PS service). Then SS and UE shall execute procedure P11 (for CS service) or P13 (for PS service). The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings from for cells belonging to the monitored set listed in the IE "inter-frequency cell info list" in System Information Type 11.

SS sends PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH, specifying that compressed mode sequence pattern with TGPSI=1 be deactivated. The UE shall reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. It shall stop compressed mode operations at the activation time stated in PHYSICAL CHANNEL RECONFIGURATION message. After the designated activation time has elapsed, SS sends MEASUREMENT CONTROL message on the downlink DCCH. In this message, SS requests UE to perform inter-frequency measurement with periodic reporting of CPICH RSCP values for cell 4. The "DPCH compressed status info" IE in this message activates the transmission gap pattern sequence with TGPSI = 1. The UE shall start inter-frequency measurement and reporting for cell 4's CPICH RSCP values. It shall report this measurement result by transmitting MEASUREMENT REPORT messages on uplink DCCH periodically at 16 seconds interval.

In the next sequence, SS sends another MEASUREMENT CONTROL message on the downlink DCCH. In this message, omitting the IE "Reporting cell status" is not included. The UE shall send MEASUREMENT REPORT messages on the uplink DCCH, with the IE "Cell measured results" excluded from in these messages.

## **Expected Sequence**

[	Step	Direction		Message	Comment
	-	UE	SS	1	
	1	←		System Information Block type 11.	The UE is idle mode and camped onto cell 1.System Information Block Type 11 to be transmitted is different from the default settings (see specific message contents)
	2	K	⇒	SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	SS prompts the operator to make an outgoing call.
	3	3 ↔→		SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.RRC CONNECTION REQUESTVoid	
	4 <u>↔</u> ←		<u>&gt;</u> ←	SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.RRC CONNECTION SETUP <u>Void</u>	SS allocates dedicated physical channels to UE, as well as specifying the activation of compressed mode behaviour with pattern sequence TGPSI = 1.
	5	-	<b>→</b>	RRC CONNECTION SETUP COMPLETEVoid	UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_DCH state.
	6				SS checks to see that no MEASUREMENT REPORT messages are <u>received</u> sent from UE to cell 1.
	7	•	÷	PHYSICAL CHANNEL RECONFIGURATION	Existing compressed mode sequence pattern is de- activated in this message.
	8	-	<b>&gt;</b>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall remain in CELL_DCH state.

g	€ €	MEASUREMENT CONTROL	SS requests UE to start inter- frequency measurement for cell 4_ and performing periodic reporting for cell 4's CPICH RSCP. "DPCH compressed mode status info" IE is set to simultaneously activate compressed mode pattern.
10	$\rightarrow$	MEASUREMENT REPORT	UE shall report cell 4's CPICH RSCP reading periodically.
1	1 ←	MEASUREMENT CONTROL	SS changes the reporting criteria of cell 4 to 'event 2c'. "Reporting cell status" IE in this message is omitted.
1:	2 →	MEASUREMENT REPORT	SS monitors the uplink DCCH to make sure that only 1 such message is received 32 seconds after step 11. This message shall not contain IE "Inter-frequency cell measured results"

# Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

System Information Block type 11 (Step 1)

SIB12 indicator       FALSE         FACH measurement occasion info       Not Present         Measurement control system information       - Intra-frequency measurement system         information       - Inter-frequency measurement system         information       - Inter-frequency measurement identity         - Inter-frequency measurement identity       4         - Inter-frequency cell info list       - CHOICE inter-frequency cell removal         - New inter-frequency cell id       Set to id of cell 4         - Frequency info       - UARFCN uplink (Nu)         - UARFCN downlink (Nd)       Set to the uplink UARFCN of cell 4	Information Element	Value/Remark
FACH measurement occasion info       Not Present         Measurement control system information       - Intra-frequency measurement system         information       - Inter-frequency measurement system         information       - Inter-frequency measurement identity         - Inter-frequency cell info list       4         - Inter-frequency cell info list       No inter-frequency cells removed         - New inter-frequency cell id       Set to id of cell 4         - Frequency info       - UARFCN uplink (Nu)         - UARFCN downlink (Nd)       Set to the uplink UARFCN of cell 4	SIB12 indicator	FALSE
Measurement control system information       - Intra-frequency measurement system information       - Inter-frequency measurement system information         - Inter-frequency measurement system information       - Inter-frequency measurement identity       4         - Inter-frequency cell info list       - CHOICE inter-frequency cell removal       No inter-frequency cells removed         - New inter-frequency cell id       Set to id of cell 4         - Frequency info       - UARFCN uplink (Nu)         - UARFCN downlink (Nd)       Set to the uplink UARFCN of cell 4	FACH measurement occasion info	Not Present
<ul> <li>Intra-frequency measurement system information</li> <li>Inter-frequency measurement system information</li> <li>Inter-frequency measurement identity</li> <li>Inter-frequency cell info list</li> <li>CHOICE inter-frequency cell removal</li> <li>No inter-frequency cells removed</li> <li>No inter-frequency cells removed</li> <li>Set to id of cell 4</li> <li>Set to the uplink UARFCN of cell 4</li> <li>Set to the downlink UARFCN of cell 4</li> </ul>	Measurement control system information	
information         - Inter-frequency measurement system         information         - Inter-frequency measurement identity         - Inter-frequency cell info list         - CHOICE inter-frequency cell removal         - New inter-frequency cell id         - Inter-frequency cell id         - Inter-frequency cell id         - Frequency info         - UARFCN uplink (Nu)         - Cell info         - Cell info	- Intra-frequency measurement system	Not Present
<ul> <li>Inter-frequency measurement system information</li> <li>Inter-frequency measurement identity</li> <li>Inter-frequency cell info list</li> <li>CHOICE inter-frequency cell removal</li> <li>New inter-frequency info list</li> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>Cell info</li> </ul>	information	
information       - Inter-frequency measurement identity       1         - Inter-frequency cell info list       - CHOICE inter-frequency cell removal       No inter-frequency cells removed         - New inter-frequency info list       - Inter-frequency cell id       Set to id of cell 4         - Frequency info       - UARFCN uplink (Nu)       Set to the uplink UARFCN of cell 4         - Cell info       - Cell info       Set to the downlink UARFCN of cell 4	<ul> <li>Inter-frequency measurement system</li> </ul>	
<ul> <li>Inter-frequency measurement identity</li> <li>Inter-frequency cell info list</li> <li>CHOICE inter-frequency cell removal</li> <li>New inter-frequency info list</li> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>Cell info</li> </ul>	information	
<ul> <li>Inter-frequency cell info list</li> <li>CHOICE inter-frequency cell removal</li> <li>New inter-frequency info list</li> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>Cell info</li> </ul>	——- Inter-frequency measurement identity	4
<ul> <li>CHOICE inter-frequency cell removal</li> <li>New inter-frequency info list</li> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>Cell info</li> </ul>	<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>New inter-frequency info list</li> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>UARFCN downlink (Nd)</li> <li>Set to the uplink UARFCN of cell 4</li> <li>Set to the downlink UARFCN of cell 4</li> </ul>	<ul> <li>CHOICE inter-frequency cell removal</li> </ul>	No inter-frequency cells removed
<ul> <li>Inter-frequency cell id</li> <li>Frequency info</li> <li>UARFCN uplink (Nu)</li> <li>UARFCN downlink (Nd)</li> <li>Cell info</li> </ul>	<ul> <li>New inter-frequency info list</li> </ul>	
- Frequency info     - UARFCN uplink (Nu)     - UARFCN downlink (Nd)     - Cell info	<ul> <li>Inter-frequency cell id</li> </ul>	Set to id of cell 4
- UARFCN uplink (Nu)     - UARFCN downlink (Nd)     - Cell info	- Frequency info	
- UARFCN downlink (Nd) Set to the downlink UARFCN of cell 4	- UARFCN uplink (Nu)	Set to the uplink UARFCN of cell 4
- Cell info	- UARFCN downlink (Nd)	Set to the downlink UARFCN of cell 4
	- Cell info	
- Cell individual offset 0 dB	- Cell individual offset	0 dB
- Reference time difference to cell 0 chips	- Reference time difference to cell	0 chips
- Read SFN Indicator FALSE	- Read SFN Indicator	FALSE
- CHOICE mode FDD	- CHOICE mode	FDD
- Primary CPICH Info	- Primary CPICH Info	
- Primary Scrambling Code Set to same code as used for cell 4	- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH I X power Not Present	- Primary CPICH TX power	Not Present
- TX Diversity Indicator FALSE	- TX Diversity Indicator	FALSE
- Cell selection and re-selection info	- Cell selection and re-selection info	
- Qonsets,n U dB	- QOTISETs,n	
- Maximum anoved OL TX power U dBm	- Maximum allowed UL TX power	U dBm
- HCS neighbouring cell information Not Present	- HCS heighbouring cell information	
- Qquainini -20 db	- Qquaimin Ondoumin	-20 UD
- Qixievinin Colle for monourement	- QIXIEVIIIII	- 1 I DUDIII Not Present
Inter PAT measurement austam information Not Present	- Cells for measurement evetem information	Not Present
Traffic volume measurement system	Traffic volume measurement system information	Not Present
information	information	
- LIE internal measurement system information Not Present	- LIE internal measurement system information	Not Present

#### RRC CONNECTION REQUEST (Step 3)

Information Element	Value/Remarks
Establishment cause	Check to see if set to originating call of a
	supported traffic class
Measured results on RACH	Check to see if this IE is absent

# RRC CONNECTION SETUP (Step 4<u>42</u>)

Use the message found in TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indication	Maintain
<ul> <li>CFN-targetSFN frame offset</li> </ul>	Not Present
<ul> <li>Downlink DPCH power control information</li> </ul>	
- DPC mode	Single TPC
- CHOICE Mode	FDD
- Power offset P _{Pilot-DPDCH}	TBD <u>0</u>
<ul> <li>DL rate matching restriction information</li> </ul>	Not Present
- Spreading factor	Refer to the parameter set in TS 34.108
<ul> <li>Fixed or flexible position</li> </ul>	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Refer to the parameter set in TS 34.108
<ul> <li>DPCH compressed mode info</li> </ul>	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256
<ul> <li>Transmission gap pattern sequence</li> </ul>	
configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	<u>84</u>
- TGL1	<u>7</u> 40
- TGL2	Not Present
- TGD	<u>0</u> 15
- TGPL1	3 <del>5</del>
- TGPL2	Not Present <del>35</del>
- RPP	Mode <u>0</u> 4
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL
Downlink compressed mode method	SF/2
<ul> <li>Uplink compressed mode method</li> </ul>	<u>SF/2</u>
Downlink frame type	AB
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- I Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

# PHYSICAL CHANNEL RECONFIGURATION (Step 7)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/remark	
CHOICE channel requirement	Uplink DPCH info	
- Uplink DPCH power control info		
- DPCCH power offset	-6dB	
- PC Preamble	1 frame	
- SRB delay	7 frames	
- Power Control Algorithm	Algorithm1	
- TPC step size	1dB	
- Scrambling code type	Long	
- Scrambling code number	0	
- Number of DPDCH	Not Present (Use default value of 1)	
- Spreading factor	SF is reference to TS34.108 clause 6.10	
	Parameter Set	
- TFCI existence	TRUE	
- Number of FBI bit	Not Present (Use default value of 0)	
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter	
	Set	
CHOICE Mode	FDD	
- Downlink PDSCH information	Not Present	
Downlink information common for all radio links		
- Downlink DPCH info common for all RL		
- Timing Indication	Maintain	
- Downlink DPCH power control information		
- DPC mode	0 (single)	
- CHOICE mode	FDD	
- Power offset Peilot-DPDCH	TBD0	
- DL rate matching restriction information	Not Present	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter	
	Set	
- Fixed or Flexible Position	Flexible	
- TFCI existence	TRUE	
- Number of bits for Pilot bits (SF=128.256)	Not Present	
- DPCH compressed mode info		
- Transmission gap pattern sequence		
- TGPSI	1	
- TPGS status Flag	Inactive	
- TGCFN	Not Present	
- Transmission gap pattern sequence	Not Present	
TX Diversity mode	None	
- IA Diversity mode	Not Present	
	NOLFIESEN	
- Detault DPCH Offset Value		
Downlink information per radio link list	Not Present	

# MEASUREMENT CONTROL (Step 9)

Information Element	Value/Remark	
Measurement Identity	1	
Measurement Command	Setup	
Measurement Reporting Mode		
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC	
- Periodic Reporting / Event Trigger Reporting	Event Trigger	
Mode		
Additional measurements list	Not Present	
CHOICE measurement type	Inter-frequency measurement	
<ul> <li>Inter-frequency cell info list</li> </ul>		
<ul> <li>CHOICE inter-frequency cell removal</li> </ul>	No inter-frequency cells removed	
<ul> <li>New inter-frequency info list</li> </ul>		
- Inter-frequency cell id	Set to id of cell 4	
- Frequency info		
	UARFON of the uplink frequency for cell 4	
	UARFON of the downlink frequency for cell 4	
- Cell Info	0 40	
- Cell Individual Offset	0 ub	
- Read SEN Indicator		
- CHOICE mode	FDD	
- Primary CPICH Info		
- Primary Scrambling Code	Set to same code as used for cell 4	
- Primary CPICH TX power	Not Present	
- TX Diversity Indicator	FALSE	
- Cells for measurement		
- Inter-frequency cell id	Set to id of cell-4	
- Inter-frequency measurement quantity		
- CHOICE reporting criteria	Inter-frequency reporting criteria	
- Filter Coefficient	0	
<ul> <li>Measurement quantity for frequency quality</li> </ul>	CPICH RSCP	
estimate		
- Inter-frequency reporting quantity		
- UTRA Carrier RSSI		
- Frequency quality estimate	+RUE <u>FALSE</u>	
- Non nequency related centreporting quantities	No report	
indicator		
- Cell synchronisation information reporting	FALSE	
indicator		
- Cell Identity reporting indicator	FALSE	
- CPICH Ec/No reporting indicator	FALSE	
<ul> <li>CPICH RSCP reporting indicator</li> </ul>	TRUE	
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE	
<ul> <li>Reporting cell status</li> </ul>		
- CHOICE reported cell	Report cell within active and/or monitored set	
	on used frequency or within active and/or	
Maximum mumber of several address	monitored set on non-used frequency	
- Maximum number of reported cells		
- Measurement validity	Not present	
- Mel-nequency set update	Periodic reporting criteria	
- Amount of reporting	Infinity	
- Reporting interval	16 seconds	
DPCH compressed mode status info		
TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256	
Transmission gap pattern sequence		
- TGPSI	1	
- TGPS Status Flag	Active	
- TGCFN	(Current CFN + (256 - TTI/10msec))mod 256	

# MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured results	Check to see if it is absent
Event Results	Check to see if it is absent

# MEASUREMENT CONTROL (Step 11)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Event Trigger
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>CHOICE inter-frequency cell removal</li> </ul>	No inter-frequency cells removed
<ul> <li>New inter-frequency info list</li> </ul>	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 4
- Cell info	
- Reference time difference to cell	
- Read SFN Indicator	
- Flillary CFICH III0 Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FAI SE
- Cells for measurement	
- Inter-frequency cell id	Set to id of cell 4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality	CPICH RSCP
estimate	
<ul> <li>Inter-frequency reporting quantity</li> </ul>	
- UTRA Carrier RSSI	FALSE
<ul> <li>Frequency quality estimate</li> </ul>	TRUE <u>FALSE</u>
<ul> <li>Non frequency related cell reporting quantities</li> </ul>	
<ul> <li>SFN-SFN observed time difference reporting</li> </ul>	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	
- Pathioss reporting indicator	FALSE Not Present
- Reporting cell status	Not present
- Interstrement valuaty	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Diroice report citiena - Parameters required for each event	Inter-frequency measurement reporting criteria
- Inter-frequency event identity	20
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	0.5 dB
- Time to triager	0 milliseconds
- Reporting cell status	Not Present
- Parameters required for each non-used	
frequency	
- Threshold non used frequency	-85 dBm
- W non used frequency	0
DPCH compressed mode status info	Not Present

#### MEASUREMENT REPORT (Step 12)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency
	measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
<ul> <li>Inter-frequency cell measurement results</li> </ul>	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured Results	Check to see if it is absent
Event Results	
- CHOICE event result	Check to see if this IE is set to "Intra-frequency
	measurement event results"
- Inter-frequency event identity	Check to see if this IE is set to "2c"
- Inter-frequency cells	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- Non frequency related measurement event	
results	
- CHOICE Mode	Check to see it set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code as cell 4

## 8.4.1.2.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to the measurement of CPICH RSCP quantity of cell 4.

After step 9 the UE shall transmit MEASUREMENT REPORT messages on uplink DCCH, reporting cell 4's CPICH RSCP value at periodic time interval of 16 seconds in "inter-frequency cell measurement results" IE.

After step 11 the UE shall transmit only 1 MEASUREMENT REPORT message on the uplink DCCH. In this message, IE "inter-frequency cell measured results" shall be absent.

# 8.4.1.3 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_FACH state

8.4.1.3.1 Definition

## 8.4.1.3.2 Conformance requirement

The UE shall begin monitoring neighbouring cells listed in the IE "intra-frequency cell info_list" received in System Information Block type 11 or 12 messages. During upon a transition from idle mode to CELL_FACH state., the UE shall continue to monitor neighbouring cells listed in the IE "Intra frequency cell info" received in System Information Block type 11 or 12 messages. If an IE "intra-frequency measurement reporting criteria" is also specified in these System Information Block Type 11 or 12 messages, the UE shall store this information. The UE and shall apply these reporting rules when deciding to transmit MEASUREMENT REPORT messages followingin a subsequent transition to CELL_DCH state. If the UE receives IE "Intra-frequency reporting for RACH reporting" and IE "Maximum number of Reported cells on RACH" in System Information Block type 11 or 12 messages, the UE shall append the use these measurement information and report the measured results when sending messages on RACH.

#### Reference

3GPP TS 25.331, clause 8.4.1.9.1, 8.4.1.7.1

#### 8.4.1.3.3 Test Purpose

To confirm that the UE begins <u>or continues</u> to monitor <u>the neighbouring</u> cells listed in IE "intra-frequency cell info<u>list</u>" of System Information Block type 11 or 12 messages <u>in idle mode, and continue to do so</u> after it has entered <u>the</u> CELL_FACH state <u>from idle mode</u>. If information regarding the To confirm that the UE applies the reporting criteria <u>stated in "</u>intra-frequency measurement reporting criteria" <u>IE in System Information Block Type 11 or 12</u> <u>is also</u> broadcasted, the UE shall store this information and apply the reporting criteria afterin a subsequent transition to CELL_DCH state. If RACH measurement reporting is dictated in System Information Block type 11 or 12 messages, the UE shall include these measurements when transmitting on the RACH channel. To confirm that the UE reports measured results on RACH messages, if it receives IE "Intra-frequency reporting quantity for RACH reporting" and IE "Maximum number of reported cells on RACH" from System Information Block Type 11 or 12 upon a transition from idle mode to CELL_FACH state.

#### 8.4.1.3.4 Method of test

#### Initial Condition

System Simulator: 2 cells. - both eCell 1 and cell 2 are active. See Table 8.4.1.3 1 for the power settings.

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

#### Test Procedure

Table 8.4.1.3-1 illustrates the downlink power to be applied for the 2 cells in this test case.

Parameter	Unit	Cell 1	Cell 2
UTRA RF		Ch. 1	Ch. <mark>21</mark>
Channel Number			
CPICH RSCPEC	dBm/	-74 <u>60</u>	- <del>78<u>70</u></del>
	3.84		
	MHz		

#### Table 8.4.1.3-1

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type 11 messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 2 into the monitored neighbour IE "intra-frequency cell info_list". The key measurement parameters are as follow: measurement type = "intra-frequency measurement", measurement quantity = "CPICH RSCP", report criteria = "periodic reporting criteria", reporting interval = "12 seconds". In the System Information type 11 messages, reporting of CPICH RSCP is also required for intra-frequency reporting when transmitting RACH messages to on cell 1.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. <u>SS and UE shall</u> <u>execute procedure P6. Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14. The</u> <u>UE shall transmit a RRC CONNECTION REQUEST message on the uplink CCCH, SS replies with RRC</u> <u>CONNECTION SETUP message and allocates PRACH and S CCPCH physical channels for uplink and downlink</u> <u>usage. UE shall then enter CELL_FACH state.</u> SS starts timer T305 and waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of cell <u>12</u>'s CPICH RSCP values in IE "Measured results on RACH". SS then replies with CELL UPDATE CONFIRM message on the downlink DCCH, without changing the physical channel resources.

In the next sequence, SS transmits PHYSICAL CHANNEL RECONFIGURATION message, and allocates dedicated physical channels to the UE. The UE shall transit to CELL_DCH state and then send a MEASUREMENT REPORT message, correctly stating the measurement identity. The measurement identity indicated shall match the value that was previously broadcasted on System Information Block type 11 messages when the UE was still in idle mode. The IE "Measured results" in the MEASUREMENT REPORT messages shall contain measured values of cell 2's CPICH RSCP.

# Expected Sequence

Step	Direction UE SS	Message	Comment
1	÷	System Information Block type 1, System Information Block type 11	The UE is idle mode and camped onto cell 1. System Information Block type 1 and 11 to be transmitted are different from the default settings (see specific message contents)
2	$\leftrightarrow$	SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108. Void	SS prompts the test operator to make an outgoing call.
3	↔→	SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108. CONNECTION REQUESTVoid	The CPICH RSCP value of Cell 1 shall be reported.
4	↔←	<u>SS executes procedure P14 (clause</u> 7.4.2.6.2) specified in TS 34.108. CONNECTION SETUPVoid	SS allocates common physical channels to UE.
5	→	RRC-CONNECTION COMPLETEVoid	UE shall enter CELL_FACH state, and transmit this message to acknowledge the RRC CONNECTION SETUP message.
6			SS monitors the uplink DCCH to confirm that no MEASUREMNENT REPORT messages are detected. SS waits for 5 minutes (for the expiry of T305 timer).
7	<b>→</b>	CELL UPDATE	This message shall contain IE <u>"Measured results on RACH"</u> <u>reporting the measurement</u> readings of CPICH RSCP for cell 1.
8	÷	CELL UPDATE CONFIRM	SS does not change the physical channel configurations.
9	÷	PHYSICAL CHANNEL RECONFIGURATION	SS assigns dedicated physical resources to the UE, but keeps the parameters for transport channels and RBs unchanged.
10	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state-after sending this message.
11	<i>→</i>	MEASUREMENT REPORT	UE shall begin to report cell 2's CPICH RSCP value periodically at <u>12-16</u> seconds interval. The measurement identity shall match measurement contexts transmitted on BCCH in step 1

# Specific Message Content

System Information Block type 1 (Step 1)

Information Element	Value/Remarks
UE Timers and constants in connected mode	
- T305	5 minutes.

# System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
EACH measurement occasion info	
	0
- FACH Measurement occasion cycle length	2
coefficient	
<ul> <li>Inter-frequency FDD measurement indicator</li> </ul>	FALSE
- Inter-frequency TDD measurement indicator	FALSE
Inter DAT measurement indicators	Net Present
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	
Intro frequency macquirement identity	F
- Initia-frequency measurement identity	5
- Intra-frequency cell into list	
<ul> <li>CHOICE intra-frequency cell removal</li> </ul>	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
- Intra-frequency cell id	Set to id of cell 2
- Cell Info	
- Cell individual offset	0 dB
<ul> <li>Reference time difference to cell</li> </ul>	0 chips
- Read SEN Indicator	FALSE
CHOICE mode	EDD
	FDD
- Primary CPICH Into	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
Call calestian and De calestian info	TALOL
- Cell selection and Re-selection info	
- Qoffset _{s,n}	0 dB
<ul> <li>Maximum allowed UL TX power</li> </ul>	0 dBm
- HCS neighbouring cell information	Not Present
	-20dB
Qrxlevmin	-115dBm
- Cell <u>s</u> for measurement	Not Present
<ul> <li>Intra-frequency Measurement quantity</li> </ul>	
- Filter Coefficient	0
Measurement quantity	
- Measurement quantity	CPICH ROCP
<ul> <li>Intra-frequency measurement for RACH</li> </ul>	
reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH RSCP
Maximum average of the marked calls on DAOU	
- Maximum number of reported cells on RACH	Current cell
<ul> <li>Reporting information for state CELL_DCH</li> </ul>	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SEN-SEN observed time difference reporting	No report
- SFN-SFN observed time difference reporting	No report
indicator	
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE
indicator	
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
	FALSE
- CPICH RSCP reporting indicator	FALSE
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE
<ul> <li>Reporting quantities for monitored set cells</li> </ul>	
- SEN-SEN observed time difference reporting	No report
- of N-of N observed time difference reporting	
Indicator	
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE
indicator	
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	IKUE
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
Monouromont Doporting Tropofor Mode	Acknowledged mede PLC
- Weasurement Reporting Transfer Mode	
- Periodic Reporting/Event Trigger Reporting	Periodic Reporting
Mode	
- CHOICE report criteria	Intra-frequency measurement

Information Element	Value/Remark
<ul> <li>Parameters required for each event</li> </ul>	reporting criteria
- Intra-frequency event identity	
- Triggering condition 1	<u>1a</u>
- Triggering condition 2	Not Present
<ul> <li>Reporting Range Constant</li> </ul>	Not PresentActive set cells
<ul> <li>Cells forbidden to affect reporting range</li> </ul>	<u><del>9</del>20.0 dB</u>
- CHOICE mode	Not Present
- Primary CPICH info	<u>FDD</u>
<ul> <li>Primary Scrambling Code</li> </ul>	
<u> </u>	Set to same code as used for cell 2
<u>- Hysteresis</u>	<u>0.0</u>
<ul> <li>Threshold used frequency</li> </ul>	<u>1.0 dB</u>
<ul> <li>Reporting deactivation threshold</li> </ul>	<u>-85 dBm</u>
<ul> <li>Replacement activation threshold</li> </ul>	<u>0</u>
<u>- Time to trigger</u>	Not Present
<ul> <li>Amount of reporting</li> </ul>	<u>Omsec</u>
- Reporting interval	Infinity
- Reporting Cell Status	12-16 seconds
- CHOICE reported cell	
	Report cells within active and/or monitored set
	on used frequency or within active and/or
<ul> <li>Maximum number of reported cells</li> </ul>	monitored set on non-used frequency
<ul> <li>Inter-frequency measurement system</li> </ul>	2
information	Not Present
<ul> <li>Traffic volume measurement system</li> </ul>	
information	Not Present
- UE internal measurement system information	
	Not Present

# RRC CONNECTION REQUEST (Step 3)

Information Element	Value/Remarks
Initial UE Identity	Check to see if it is the same as the IMSI in
	TEST USIM card, TMSI or P-TMSI previously
	allocated.
Establishment cause	Check to see if set to originating call of the
	compatible traffic classes supported by the UE
Measured results on RACH	
	Check to see if value is present and set to
	"CPICH RSCP"
	Any value between 0 to 91 is acceptable
——- Measured results for monitored cells	Check to see if it is absent

# RRC CONNECTION SETUP (Step 4)

Use the same message sub-type found in Annex A, which is titled "Transition to CELL_FACH".

#### CELL UPDATE (Step 7)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI value
	assigned in RRC CONNECTION SETUP
	messagethe execution of procedure P6.
Cell update cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if set to 'FALSE'
Measured results on RACH	
<ul> <li>Measurement result for current cell</li> </ul>	
<ul> <li>CHOICE measurement quantity</li> </ul>	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable
	range.
<ul> <li>Measurement results for monitored cells</li> </ul>	Checked to see if this IE is absent.
Protocol error information	Check to see if set to 'FALSE'

## PHYSICAL CHANNEL RECONFIGURATION (Step 9)

Use the same message sub-type found in Annex A, which is entitled "Packet to CELL_DCH from CELL_FACH".

## MEASUREMENT REPORT (Step 11)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency
	measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Event Results	Check to see if this IE is absent
- CHOICE event result	Check to see if set to "Intra-frequency
	measurement event results"
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if set to "1a"
<ul> <li>Cell measurement event results</li> </ul>	
- CHOICE Mode	Check to see if set to "FDD"
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the scrambling code of
	<u>cell 2</u>

## 8.4.1.3.5 Test Requirement

# After step 3 the UE shall send RRC CONNECTION REQUEST message, which includes measured value of cell 1's CPICH RSCP value.

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages on the uplink DCCH.

After step 6 the UE shall initiate cell update procedure by transmitting CELL UPDATE message on CCCH. In this message, the IE "cell update cause" shall be set to "periodic cell updating". It shall include IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP-measurement quantity.

After step 10 the UE shall transmit MEASUREMENT REPORT messages at <u>12-16</u> seconds interval. In these messages, neighbouring cell 2's CPICH RSCP value shall be reported in IE "Measured results". The IE "measurement identity" in this message shall match the IE "Intra-frequency measurement identity" found in System Information Block type 11 messages transmitted in step 1. <u>The MEASUREMENT REPORT messages shall also contain IE "Event results"</u>, indicating that intra-frequency event "1a" has triggered in the UE.

# 8.4.1.4 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_FACH state

#### 8.4.1.4.1 Definition

#### 8.4.1.4.2 Conformance requirement

After entering CELL_FACH state from idle mode, the UE shall start to monitor the <u>cells</u> list<u>ed</u> of in IE "inter-frequency <u>cell info list</u>" neighbouring cells assigned in the System Information Block type 11 or 12 messages.

#### Reference

3GPP TS 25.331, clause 8.4.1.9.2

#### 8.4.1.4.3 Test Purpose

To confirm that the UE begins to monitor the list of neighbouring cells assigned in the IE "inter-frequency cell info<u>list</u>" in System Information Block type 11 or 12 messages, after it enters CELL_FACH state from idle mode. However, it shall not transmit any MEASUREMENT REPORT messages to report measured results for inter-frequency cells.

#### 8.4.1.4.43 Method of test

#### **Initial Condition**

System Simulator: 2 cells – <u>Cell 1 and cell 4 are active</u>. The initial configurations of the 2 cells in the SS shall follow the values indicated in the columns marked "T0" in table 8.4.1.4 1. The table is found in "Test Procedure" clause.

UE: "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

## Test Procedure

Table 8.4.1.4-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch	. 1	Ch	. 2
CPICH RSCPEc	<mark>⊕</mark> dB m <mark>/3.8</mark> 4MHz	- <del>70<u>60</u></del>	- <del>80<u>75</u></del>	- <del>80<u>75</u></del>	- <del>70<u>60</u></del>

Table 8	.4.1.4-1
---------	----------

The UE is initially at idle mode and has selected cell 1 for camping. The System Information Block type  $1\underline{12}$  messages are modified with respect to the default settings to prevent reporting of "Cell synchronisation information" and also to include cell 4 into the monitored neighbour "inter-frequency cell list" IE for inter frequency measurement type.

SS prompts the operator to make an outgoing call of a supported traffic class. <u>SS and UE shall execute procedure P6.</u> <u>Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14.</u> The UE shall transmit a <u>RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and</u> <u>allocates PRACH channel on the uplink and S CCPCH channel on the downlink to the UE. UE then moves to</u> <u>CELL_FACH state.</u> The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings <u>from for</u> inter-frequency cells belonging to the monitored set. SS re-adjusts its downlink power settings according to columns marked "T1" in Table 8.4.1.4-1. This is expected to trigger a cell reselection in the UE. The UE shall send CELL UPDATE message to cell 4 in order to report this event. Upon receiving this message, SS replies with the default CELL UPDATE CONFIRM message on the downlink DCCH.

Ex	pected	Sec	luence

Step	Direction Message Comme		Comment
	UE SS		
1	÷	System Information Block type 11	The UE is <u>is PS-</u> <u>DCCH+DTCH FACH (state 6-</u> <u>11) inidle mode and camped</u> <u>onto</u> cell 1. System Information Block type 11 to be transmitted is different from the default settings (see specific message contents)
2		Void	SS prompts the test operator to make an outgoing call.
3	$\rightarrow$	VoidRRC CONNECTION REQUEST	
4	÷	VoidRRC CONNECTION SETUP	SS allocates PRACH and S- CCPCH resources to UE
5	→	RRC CONNECTION SETUP COMPLETEVoid	UE transmits this message to acknowledge the RRC CONNECTION SETUP message and moves to CELL_FACH state.
6			SS checks to see that no MEASUREMENT REPORT messages are <u>received.sent</u> from UE to coll 1.
7			SS reconfigures the downlink transmission power, according to columns "T1" of Table 8.4.1.4-1.
8	→	CELL UPDATE	UE shall detect that cell 4 has become stronger than cell 1. It sends this message after re- selecting to cell 4
9	÷	CELL UPDATE CONFIRM	Use default message.

## Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

# System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 Indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length	2
coefficient	
<ul> <li>Inter-frequency FDD measurement indicator</li> </ul>	TRUE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
<ul> <li>Intra-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	
——- Inter-frequency measurement identity	4
<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>CHOICE inter-frequency cell removal</li> </ul>	No inter-frequency cells removed
<ul> <li>New inter-frequency info list</li> </ul>	
<ul> <li>Inter-frequency cell id</li> </ul>	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	Set to uplink UARFCN of cell 4
- UARFCN downlink (Nd)	Set to the downlink UARFCN of cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
	FDD
- Primary CPICH Into	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	
- TX Diversity indicator	FALSE
	0 dP
- Maximum allowed LIL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qaualmin Orxleymin	-20dB -115dBm
- Cells for measurement	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system	Not Present
information	
- UE internal measurement system information	Not Present
information - UE internal measurement system information	Not Present

#### RRC CONNECTION REQUEST (Step 3)

Information Element	Value/Remarks
Establishment cause	Check to see if set to originating call of the
	compatible traffic class supported by the UE
Measured results on RACH	Check to see if this IE is absent

#### **RRC CONNECTION SETUP (Step 4)**

Use the message sub-type in default message content defined in Annex A, which is marked as "Transition to CELL_FACH".

#### CELL UPDATE (Step 8)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same to value as U-
	RNTI assigned during the execution of
Cell update cause	procedure P6.in RRC CONNECTION SETUP
Protocol error info	message
Measured results on RACH	Check to see if it is set to "Cell Reselection"
Protocol error information	Check to see if it is absent or set to FALSE
	Check to see if it is absent
	Check to see if it is absent

## CELL UPDATE CONFIRM (Step 9)

Use the message sub-type in default message content defined in Annex A.

#### 8.4.1.4.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to any measurement quantities for cell 4.

After step 7 the UE shall reselect to cell 4 and transmit a CELL UPDATE message on the uplink CCCH of cell 4.

# 8.4.1.5 Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.5.1 Definition

## 8.4.1.5.2 Conformance requirement

After entering CELL_FACH state from CELL_DCH state, the UE shall stop intra-frequency type measurement reporting assigned in a previous-MEASUREMENT CONTROL message. After transition to CELL_FACH state, the UE shall start to monitor neighbouring cells listed in the IE_"intra-frequency cell info" received in System Information Block type 11 or 12. If no intra-frequency measurements applicable to CELL_DCH are stored in the UE, and that T the UE shall store thereceives "intra frequency reporting criteria" IE specified in System Information Block type 11 or 12 messages received whilst in CELL_FACH state, and it shall apply these reporting criteria after a subsequent return to CELL_DCH state. If the UE receives the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block Type 11 or 12 during a transition from CELL_DCH to CELL_FACH requested to perform measurement reporting on RACH channels, the UE shall append the measured results when transmitting uplink RACH messages.

## Reference

3GPP TS 25.331, clause 8.4.1.6.1, 8.4.1.7.1

## 8.4.1.5.3 Test Purpose

To confirm that the UE stops performing intra-frequency measurement reporting specified in a previously received MEASUREMENT CONTROL message, when it moves from CELL_DCH state to CELL_FACH state. To confirm that the UE reads the System Information Block type 11 or 12 messages when it<u>m</u> enters CELL_FACH state from CELL_DCH state, and starts to monitor the cells listed in the IE "intra-frequency neighbouring cells info" indicated in these messages. To confirm that the UE performs measurements on uplink RACH transmissions and appends the measured results in RACH messages, when it receives IE "intra-frequency reporting quantity for RACH reporting" and IE "Maximum number of reported cells on RACH" requested by the UTRAN to do so in the System Information Block type 11 or 12 messages following a state transition from CELL_FACH to CELL_DCH, if no intra-frequency measurements applicable to CELL_DCH are stored.

#### 8.4.1.5.4 Method of test

#### Initial Condition

System Simulator: 3 cells – <u>Cell 1 and cell 2 are active, while cell 3 is switched off.</u> The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.14 1. The table is found in "Test Procedure" clause.

UE: <u>CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10)</u> "Registered idle mode on CS" (state 2) or "Registered idle mode on PS" (state 3)-in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).

#### **Test Procedure**

Table 8.4.1.5-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Columns marked "T0" denotes the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

	Table 8.4.1.5-1		
	Table 8	<u>.4.1.5-1</u>	
Parameter Unit	Cell 1	Cell 2	Cell 3

Parameter	Unit	Ce	ll 1	Ce	ll 2	Ce	II 3
		T0	T1	T0	T1	T0	T1
UTRA RF		Ch	n. 1	Ch	n. 1	Ch	n. 1
Channel							
Number							
CPICH	DBm/	- <del>75<u>60</u></del>	- <del>75<u>60</u></del>	-80	-8 <mark>50</mark>	Cell	-77 <u>70</u>
RSCPEc	3.84					<del>3 is</del>	
	MHz					switch	
						ed off	
						122	

The UE is initially in idle mode and has selected cell 1 as the current cell<u>CELL_DCH state</u>. The System Information Block type 11 message is modified from its with respect to the default message contents, in order to prevent the UE's reporting of "Cell synchronisation information". No measurement requirements are specified for the UE in any of the System Information Block type 11 or 12 messages.

SS then prompts the test operator to initiate an outgoing call of a supported traffic class. When UE transmits a RRC CONNECTION REQUEST message on RACH, SS replies with RRC CONNECTION SETUP message. Uplink and downlink dedicated physical channels are allocated. Upon receiving RRC CONNECTION SETUP message, the UE shall transmit RRC CONNECTION SETUP compLETE message on DCCH and then moves to CELL_DCH state. SS then sends a MEASUREMENT CONTROL message to UE. In this message, the SS requests the establishment of an intra-frequency measurement task for the measurement of cell 2's CPICH RSCP. At the same time, reporting of cell 2's CPICH RSCP is commanded with the reporting criteria set to "periodic reporting" and "reporting interval" set to 16 seconds. The UE shall start transmitting MEASUREMENT REPORT messages at 16 seconds interval corresponding to the requested reporting event.

SS transmits PHYSICAL CHANNEL RECONFIGURATION message, triggering a switch of transport channels from DCH (UL)/DCH (DL) to and configures RACH (UL)/ and FACH channels in the uplink and downlink directions respectively (DL). After receiving this message, the UE shall reconfigure itself and reply with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on RACH. SS acknowledges this message and the UE shall move to CELL_FACH state and read the System Information Block messages. SS then monitors the uplink channels to verify that no MEASUREMENT REPORT messages are received.

SS reconfigures itself according to the settings in columns marked "T1" in table 8.4.1.5-1. It then SS transmits System Information Block type 12 messages in cell 1, which indicates to include cell 3 into the neighbour-IE "intra-frequency cells info"-monitoring list. IEs "Intra-frequency reporting quantity for RACH Reporting" and IE "Maximum number of Reported cells on RACH" are also specified in these System Information Type 12 messages. An event triggered (eEvent type 1a) reporting criterion is specified for intra-frequency measurements. SS transmit SYSTEM INFORMATION CHANGE INDICATION message to UE. SS then waits until T305 has expired. The UE shall respond with a CELL UPDATE message, which comprises measurement IE "Measured results on RACH" to report the readings of CPICH RSCP for cell 1 and cell 3. Upon the receipt of CELL UPDATE message, SS replies with CELL UPDATE CONFIRM message on the downlink DCCH. This message does not change the physical resources nor allocate any new RNTI identities. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, allocating and configures dedicated physical resources channel for both uplink and downlink directions to the UE. The UE shall then send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and return to CELL_DCH state. SS listens to the uplink DCCH for MEASUREMENT REPORT messages. SS verifies that all pertain to the periodic measured value of cell 2's CPICH RSCP value. SS shall receive the MEASUREMENT REPORT messages with IE "Event results" at 8 seconds interval. UE shall not send any reports containing the measured values of <del>cell 3.</del>

#### **Expected Sequence**

Step	Direction	Message	Comment
	UE SS		
1	÷	Master Information Block System Information Block type 11	UE is initially in idle modein <u>CS-DCCH+DTCH_DCH (state</u> <u>6-9) or PS-</u> DCCH+DTCH_DCH (state 6-
			10) in cell 1. System Information Block Type 11 to be broadcasted specifies no measurement type to be
			<u>configured in UE., and test</u> operator is asked to make an outgoing call.
2	$\rightarrow$	RRC CONNECTION REQUEST Void	
3	+	RRC CONNECTION SETUPVoid	Uplink and downlink dedicated resources are allocated.
4	$\rightarrow$	RRC CONNECTION SETUP COMPLETEVoid	UE shall move to CELL_DCH state.
5	4	MEASUREMENT CONTROL	SS requests for measurement and reporting of cell 2's CPICH RSCP value.
6	<b>→</b>	MEASUREMENT REPORT	UE shall send periodic report at 16 seconds intervalSS waits for 2 consecutive reports.
7	÷	PHYSICAL CHANNEL RECONFIGURATION	SS <del>switches the physical</del> resources toconfigures common physical channels.
8	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall reconfigure its uplink channel to RACH and downlink channels to FACH, before transiting to CELL_FACH state.
9	÷	Master Information Block System Information Block type 12	SS reconfigures itself according to the settings stated in column "T1" of table 8.4.1.5-1. SIB type 12 indicates <u>UE shall includethat</u> cell 3 is included inte the-IE <u>"intra-frequency cell</u> <u>info"monitored neighbour cell</u> <u>list</u> . SS waits for 1 minute and verifies that no MEASUREMENT REPORT messages are detected on the uplink.

Ste	эр	Direction		Message	Comment
		UE	SS		
10	0	•	<u>-</u>	PAGING TYPE 1SYSTEM INFORMATION	SS waits until T305 has
				CHANGE INDICATION	expired.
11	1	-	<b>&gt;</b>	CELL UPDATE	UE shall transmit this message with measured
					results on RACH channels for
					cell 1 and cell 3 present in this
					message.
12	2	•		CELL UPDATE CONFIRM	No changes in physical
					resource allocation and RNII
	_				identities.
13	3	÷		PHYSICAL CHANNEL	Allocates SS configures
				RECONFIGURATION	dedicated physical channels.
14	4	-	<b>&gt;</b>	PHYSICAL CHANNEL	UE shall transit to CELL_DCH
				RECONFIGURATION COMPLETE	state.
15	5	•		MEASUREMENT REPORT	UE shall report cell 2's CPICH RSCP value in IE "Cell
					measured results" and the
					triggering of event '1a' in IE
					"Event results".

## Specific Message Content

I

## MASTER INFORMATION BLOCK (Step 1)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/Remarks
MIB Value Tag	1

## System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
<ul> <li>Intra-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system</li> </ul>	Not Present
information	
- UE internal measurement system information	Not Present

# RRC CONNECTION SETUP (Step 3)

Use the same message sub type found in Annex A, which is entitled "Transition to CELL_DCH".

# MEASUREMENT CONTROL (Step 5)

Information Element	Value/Remark
Measurement Identity	5
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency info list	
<ul> <li>Intra-frequency cell id</li> </ul>	Set to id of cell-2
- Cell info	
<ul> <li>Cell individual offset</li> </ul>	0 dB
<ul> <li>Reference time difference to cell</li> </ul>	0 chips
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Intra-frequency cell id	Set to id of cell 2
<ul> <li>Intra-frequency measurement quantity</li> </ul>	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
<ul> <li>Intra-frequency reporting quantity</li> </ul>	
- Reporting quantities for active set cells	
- SEN-SEN observed time difference reporting	No report
indicator	54.05
- Cell synchronisation information reporting	FALSE
	541.05
- Cell identity reporting indicator	FALSE
- CPICH EC/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathioss reporting indicator	FALSE
- Reporting quantities for monitored set cens	No report
- SFIN-SFIN Observed time difference reporting	no report
Coll synchronization information reporting	EALSE
- Cell Synchronisation information reporting	FALSE
Coll identity reporting indicator	TRUE
CPICH Ec/No reporting indicator	
- CFICH EC/NO reporting indicator	
- CFICH RSCF Teporting indicator	
Poperting quantities for detected cells	Not procept
- Reporting quantities for detected cells	Not present
- CHOICE reported cell	Pepart cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
- Maximum number of reported cells	
- Maximum number of reported cens	And present
	Periodical reporting criteria
- Amount of reporting	Infinity
- Amount of reporting - Reporting interval	16 seconds
DPCH compressed mode status info	Not Present
	NULTIESEIIL

#### MEASUREMENT REPORT (Step 6)

1

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional measured result list	Check to see if this IE is absent
Event results	Check to see if this IE is absent

## PHYSICAL CHANNEL RECONFIGURATION (Step 7)

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)"

## MASTER INFORMATION BLOCK (Step 9)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/Remarks
MIB Value Tag	2

System Information Block type 12 (Step 9)

I

Information Element	Value/Remark
FACH measurement occasion info	Not Present
Monsurement control system information	Not Tresent
Intro frequency massurement system	
- Intra-frequency measurement system	
	0
- Intra-frequency measurement identity	0
- Intra-frequency cell into list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
<ul> <li>Cell individual offset</li> </ul>	0 dB
<ul> <li>Reference time difference to cell</li> </ul>	0 chips
<ul> <li>Read SFN Indicator</li> </ul>	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
- Qoffsets n	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Oqualmin Orxleymin	-20dB -115dBm
- Cells for measurement	Not Present
- Intra-frequency measurement quantity	Not i resent
- Filter Coefficient	0
- Measurement quantity	
Intra frequency measurement for PACH	
- Initia-frequency measurement for RACIT	
SEN SEN observed time difference	No roport
- SEN-SEN ODSERVED time difference	
- Reporting quantity Maximum number of reported calls on PACH	Current cell i best neighbour
Poporting information for state CELL DCH	
- Reporting information for state CELL_DON	
Poporting quantities for active set cells	
SEN SEN observed time difference reporting	No report
- SFN-SFN Observed time difference reporting	No report
- Cell synchronisation information reporting	ENISE
indicator	TRESE
Coll identity reporting indicator	TDUE
CPICH Ec/No reporting indicator	
CPICH BSCD reporting indicator	
- CFICH RSCF reporting indicator	
- Falliloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	No report
- SEN-SEN ODSERVED LITTLE UITERENCE TEPOLITING	No report
Coll conchronication information reporting	
indicator	TALOL
Coll identity reporting indicator	TDUE
- Cell Identity reporting indicator	
- CPICH EC/NO reporting indicator	TALSE
- CPICH RSCP reporting indicator	
- Pathioss reporting indicator	FALSE Not present
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	intra-irequency measurement reporting criteria
- rarameter required for each event	10
- Intra-frequency event identity	Id Not Procent
	NOLFIESEIIL Manitared act as
- I riggering condition 2	
- Reporting range	
- Cells forbidden to affect reporting	
- Primary scrambling code	Set to scrambling code for cell 3
- W	0.0
- Hysteresis	1.U ab

Information Element	Value/Remark
- Threshold used frequency	Not Present
<ul> <li>Reporting deactivation threshold</li> </ul>	7
<ul> <li>Replacement activation threshold</li> </ul>	Not Present
- Time to trigger	0
<ul> <li>Amount of reporting</li> </ul>	Infinity
- Reporting Interval	8 seconds
- Reporting cell status	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency Not
<ul> <li>Maximum number of reported cells</li> </ul>	Present
<ul> <li>Inter-frequency measurement system</li> </ul>	<u>3</u>
information	Not present
<ul> <li>Inter-RAT measurement system information</li> </ul>	
<ul> <li>Traffic volume measurement system</li> </ul>	Not present
information	Not present
- UE internal measurement system information	
	Not present

## SYSTEM INFORMATION CHANGE INDICATION (Step 10)

Information Element	Value/Remarks
BCCH modification info	
<u>- MIB Value tag</u>	2

## CELL UPDATE (Step 11)

Information Element	Value/Remarks		
U-RNTI	Check to see if <u>set to the</u> same <del>to</del> value <del>as in</del>		
	the U-RNH assigned during the execution of		
	procedure P3 or P5 RRC CONECTION		
Cell update cause	SETUP message.		
	Check to see if it is set to "Periodical cell		
Protocol error info	update"		
Measured results on RACH	Check to see if it is absent or set to FALSE		
<ul> <li>Measurement result for current cell</li> </ul>			
<ul> <li>CHOICE measurement quantity</li> </ul>			
- CPICH RSCP	Check to see if set to "CPICH RSCP"		
- Measurement results for monitored cells	Check to see if it is present		
- SFN-SFN observed time difference			
- Primary CPICH info	Not Checked		
- Primary scrambling code			
- CHOICE measurement quantity	Check to see if the same as cell 3's code.		
- CPICH RSCP	Check to see if set to "CPICH RSCP"		
Protocol error information	Check to see if it is present		
	Check to see if it is absent		

## PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_DCH from CELL_FACH in PS)".

#### MEASUREMENT REPORT (Step 15)

Information Element	Value/Remarks		
Measurement identity	Check to see if set to 6		
Measured Results			
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"		
- Intra-frequency measurement results			
- Cell measured results			
- Cell Identity	Check to see if it is absent		
- SFN-SFN observed time difference	Check to see if this IE is absent		
- Cell synchronisation information	Check to see if this IE is absent		
- Primary CPICH Info			
- Primary Scrambling Code	Check to see if it's the same code for cell 1		
- CPICH Ec/No	Check to see if this IE is absent		
- CPICH RSCP	Check to see if this IE is present		
- Pathloss	Check to see if this IE is absent		
- Cell measured results			
- Cell Identity	Check to see if it is absent		
- SFN-SFN observed time difference	Check to see if this IE is absent		
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent		
- Primary CPICH Info			
- Primary Scrambling Code	Check to see if it's the same code for cell 2		
- CPICH Ec/No	Check to see if this IE is absent		
- CPICH RSCP	Check to see if this IE is present		
- Pathloss	Check to see if this IE is absent		
<ul> <li>Cell measured results</li> </ul>			
- Cell Identity	Check to see if it is absent		
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent		
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent		
- Primary CPICH Info			
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 3		
- CPICH Ec/No	Check to see if this IE is absent		
- CPICH RSCP	Check to see if this IE is present		
- Pathloss	Check to see if this IE is absent		
Measured Results on RACH	Check to see if this IE is absent		
Event results	Check to see if this set to 'Intra-frequency		
	measurement event results'		
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if set to '1a'		
<ul> <li>Cell measurement event results</li> </ul>			
- CHOICE Mode	Check to see if set to 'FDD'		
- Primary CPICH info			
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 23		

#### 8.4.1.5.5 Test Requirement

After step 5, the UE shall start to transmit MEASUREMENT REPORT messages at 16 seconds interval. The message shall contain the <u>IE</u> "measured result" to report of cell 2's CPICH RSCP value.

After step 8, the UE shall not send any MEASUREMENT REPORT messages containing reporting quantities requested in MEASUREMENT CONTROL messages in step 5.

After step 10, the UE shall perform a cell update procedure and transmit a CELL UPDATE message. In this message, the measured values CPICH RSCP for cell 1 and cell 3 shall be included in the IE "measured results on RACH".

After step 15, the UE shall apply the <u>stored inter</u><u>"intra</u>-frequency measurement reporting criteria<u>"</u> <u>specified received in</u> System Information Block type 12 messages of step 9. It shall send MEASUREMENT REPORT messages <u>at 8 seconds</u> <u>interval</u><u>containing estimates for cell 2's CPICH RSCP value in IE "Cell measured results</u>". In the<u>se same messages</u>, triggering of event '1a' shall be reported in IE "Event results<u>"</u> with IE "Primary CPICH info" containing the primary <u>scrambling code for cell 3</u>. The UE shall not transmit any MEASUREMENT REPORT messages, which report measurement quantities of cell 3.

# 8.4.1.6 Measurement Control and Report: Inter-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.6.1 Definition

#### 8.4.1.6.2 Conformance requirement

When transiting from CELL_DCH state to CELL_FACH state, the UE shall stop all measurement reporting activities related to inter-frequency measurements assigned in a MEASUREMENT CONTROL message. After reaching a transition from CELL_DCH state to CELL_FACH state, the UE shall begin to monitor neighbouring cells listed in the IE "inter-frequency cell info" specified in the System Information Block type 11 or 12 messages.

#### Reference

3GPP TS 25.331, clause 8.4.1.6.2

## 8.4.1.6.3 Test Purpose

To verify confirm that UE ceases to transmit MEASUREMENT REPORT messages to report inter-frequency type measurements reporting assigned in MEASUREMENT CONTROL message when moving from CELL_DCH state to CELL_FACH. This requirement shall be observed even if the UE has detected that inter frequency type measurement reporting criteria have been satisfied in CELL_FACH state. To verify confirm that the UE begins to monitors the neighbouring cells listed in "inter-frequency cell info" received in System Information Block type 11 or 12 messages. following a state transition from CELL_DCH state to after reaching CELL_FACH state.

#### 8.4.1.6.4 Method of test

#### Initial Condition

System Simulator: 2 cells – <u>Cell 1 and cell 2 are active</u>. The initial configurations of the 2 cells in the SS shall follow the values indicated in the columns marked "T0" in table 8.4.1.6 1. The table is found in "Test Procedure" clause.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> <u>"Registered idle mode on CS" (state 2) or "Registered idle mode on CS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7).</u>

#### **Test Procedure**

Table 8.4.1.6-1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1 are to be applied subsequently. The exact instants on which these values shall be applied are described in the texts in this clause.

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF		Ch. 1		Ch. 2	
Channel					
Number					
CPICH	dBm	- <del>70<u>60</u></del>	- <mark>81</mark> 75	- <del>81<u>75</u></del>	- <del>70<u>60</u></del>
EcRSCP	3.84				
	MHz				

#### Table 8.4.1.6-1

The UE is initially in <u>CELL_DCH state. idle mode, after camping on cell 1. SS prompts the test operator to initial an</u> outgoing call for one of the supported traffic classes. The System Information Block type 11 message is modified <u>with</u> respect to the default settings, so that no measurement tasks are required of the UE. The UE shall send a RRC CONNECTION REQUEST message on the uplink CCCH. Upon receiving this message, SS allocates dedicated physical channels to the UE by transmitting RRC CONNECTION SETUP message. The UE shall reply by transmitting a RRC CONNECTION SETUP COMPLETE message. SS then checks the IE "Measurement Capability" of this message and verifies that the UE is capable of performing inter frequency measurements under FDD mode. After confirmation of the UE inter frequency measurement capability, SS transmits PHYSICAL CHANNEL RECONFIGURATION message. In this message, IE "DPCH compressed mode info" is present, which indicates that the UE shall apply the given parameters for compressed mode operations. The UE shall return a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge that compressed mode mechanism can be exercised.

SS then-sends a MEASUREMENT CONTROL message to the UE, specifying that including cell 4 be the measurement object for into the IE "inter-frequency cell info" type measurement. The IE "CHOICE erporting criteria" in this message is set to "periodic reporting criteriaon" is associated with this measurement. SS waits for 8 seconds to allow the periodic timer to expire. The UE shall send a MEASUREMENT REPORT message containing IE "inter-frequency cell measurement reporting quantity RSCP value. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, requesting the UE to switch from uplink and downlink dedicated physical channels to and reconfigures common physical channels. The UE shall return a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_FACH state.

SS modifies the contents of Master Information Block (MIB) and System Information Block (SIB) type 11. In SIB 11, cell 4 is added to the <u>neighbouring</u>-cells listed in the "inter-frequency cell info" IE. <u>SS transmit SYSTEM</u> <u>INFORMATION CHANGE INDICATIONMESSAGE to UE.</u> SS waits for 8 seconds to detect any <u>possible</u>-uplink MEASUREMENT REPORT messages. <u>SS verifies that no MEASUREMENT REPORT message(s) are received</u> as a result of inter-frequency measurements. SS then reconfigures the downlink transmission power settings of cell 1 and cell 4 according to the values stated in columns "T1" of Table 8.4.1.6-1. SS waits for [x] seconds to allow the UE to perform cell re-selection. The UE shall transmit a CELL UPDATE message on the uplink CCCH of cell 4, specifying the <u>"cell update cause" IE</u> as "cell re-selection". SS replies with CELL UPDATE CONFIRM message on the downlink DCCH to complete the cell update procedure.
# Expected Sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	System Information Block type 11	UE is <u>CS-DCCH+DTCH_DCH</u> (state 6-9) or PS- <u>DCCH+DTCH_DCH</u> (state 6- <u>10)initially in idle mode and</u> camped onto in cell 1. System Information Block type 11 is modified with respect to the default settings <u>, in order to</u> disable a <u>A</u> II measurement and reporting activities <u>are</u> disabled in this message.
2		Void	SS prompts the test operator to trigger an outgoing call for a
3			supported traffic class
4	<del>,</del>	RRC CONNECTION SETUPVoid	Uplink and downlink DPCH
5	$\rightarrow$	RRC CONNECTION SETUP COMPLETEVoid	resources are allocated.         UE shall indicate that it's         capable of performing inter- frequency measurement for         FDD mode.
6	÷	PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
7	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall remain in CELL_DCH
8	÷	MEASUREMENT CONTROL	SS indicates that the CPICH RSCP of cell 4 shall be monitored and reported. SS waits for 8 seconds for the reception of MEASUREMENT REPORT message.
9	$\rightarrow$	MEASUREMENT REPORT	UE shall transmit this message to report cell 4's CPICH RSCP value.
10	÷	PHYSICAL CHANNEL RECONFIGURATION	SS <del>changes the physical</del> <del>channel allocation to</del> <u>configures</u> common <u>physical</u> channels configuration.
11	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_EACH state
12	÷	Master Information Block, System Information Block type 11	SS modifies MIB and SIB 11. Cell 4 is included in the neighbouring cells list for IE "inter-frequency cell info" measurement
13	£	SYSTEM INFORMATION CHANGE INDICATION	SS waits for 8 seconds to verify that no MEASUREMENT REPORT messages are detected on the uplink DCCH.
14			SS changes the power settings for cell 1 and cell 4 according to columns marked "T1" of Table 8.4.1.6-1, and then waits for [x] seconds to allow the UE to re-select to a new cell.
15	→	CELL UPDATE	UE shall determine that cell 4 has become the best cell and then perform cell re-selection and transmit this message on the new cellprocedure.
16	<del>\</del>	CELL UPDATE CONFIRM	

NOTE: The value [x] seconds is TBDto be calculated from TS 25.133 clause 5.5.2. The maximum allowable time for cell re-selection duration is governed by the requirements in TS 25.304 and TS 25.133.

Specific Message Content

System Information Block Type 11 (Step 1)

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
<ul> <li>FACH Measurement occasion cycle length</li> </ul>	2
coefficient	
<ul> <li>Inter-frequency FDD measurement indicator</li> </ul>	FALSE
<ul> <li>Inter-frequency TDD measurement indicator</li> </ul>	FALSE
<ul> <li>Inter-RAT measurement indicators</li> </ul>	Not Present
Measurement control system information	
<ul> <li>Intra-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system</li> </ul>	Not Present
information	
<ul> <li>UE Internal measurement system information</li> </ul>	Not Present

## **RRC CONNECTION SETUP (Step 4)**

Use the same message sub-type found in Clause 9 of TS 34.108, which is entitled "Transition to CELL_DCH"

## RRC CONNECTION SETUP COMPLETE (Step 5)

Information Element	Value/Remarks
START List	
	Check to see if it is present for all supported
	CN domains
	Check to see if it is present for all supported
	CN domains
UE Radio access capability	
- ICS Version	Checked to see if set to 'R99'
	Not checked.
	Not checked.
- Transport channel capability	Not checked.
	Not checked.
	Not checked
- Physical channel capability	Not checked.
	Not checked.
	Not checked.
	Not checked.
- Measurement capability	
	Checked to see if set to 'TRUE'
- TDD measurements DL	Not checked.
	Checked to see if set to 'TRUE'
	Not checked.
UE system specific capability	Not checked.

# PHYSICAL CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_DCH from CELL_DCH in PS)", with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indication	Maintain
<ul> <li>Downlink DPCH power control information</li> </ul>	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
<ul> <li>Power offset PPilot-DPDCH</li> </ul>	TBD <u>0</u>
<ul> <li>DL rate matching restriction information</li> </ul>	Not Present
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
<ul> <li>Number of bits for Pilot bits (SF=128, 256)</li> </ul>	Not Present
<ul> <li>DPCH compressed mode info</li> </ul>	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
configuration parameters	
- TGMP	FDD Measurement
- IGPRC	62
- IGSN	84
- IGL1	1 <u>107</u>
- IGL2	<del>SNot Present</del>
- IGD	
	303 SEMet Dresent
- IGPL2	33 <u>Not Present</u>
	Mode <u>+0</u>
- CHOICE OL/DL Mode Downlink compressed mode method	
- Downlink compressed mode method	
- Downlink frame type	AB
- Dolta SIR1	
- DeltaSIR1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- Nidentify abort	Not Present
- T Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

# MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark		
Measurement Identity	15		
Measurement Command	Setup		
Measurement Reporting Mode			
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC		
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting		
Mode			
Additional measurements list	Not Present		
CHOICE measurement type	Inter-frequency measurement		
- Inter-frequency cell info list			
- CHOICE inter-frequency cell removal	No inter-frequency cells removed		
<ul> <li>New inter-frequency info list</li> </ul>			
<ul> <li>Inter-frequency cell id</li> </ul>	Set to id of cell 4		
- Frequency info			
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4		
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 4		
- Cell info			
- Cell individual offset	0 dB		
- Reference time difference to cell	0 chips		
- Read SFN Indicator	FALSE		
- CHOICE Mode	FDD		
- Primary CPICH Info			
- Primary Scrambling Code	Set to same code as used for cell 4		
- Primary CPICH IX power	Not Present		
- TX Diversity indicator	FALSE		
- Cell <u>s</u> for measurement	Set to id of cell 4		
- Inter-frequency cell lu			
- CHOICE reporting criteria	Inter-frequency reporting criteria		
- Filter Coefficient			
- Measurement quantity for frequency quality	CPICH RSCP		
estimate			
- Inter-frequency reporting quantity			
- UTRA Carrier RSSI	FALSE		
<ul> <li>Frequency quality estimate</li> </ul>	TRUEFALSE		
<ul> <li>Non frequency related cell reporting quantities</li> </ul>	;		
- SFN-SFN observed time difference reporting	No report		
indicator			
- Cell synchronisation information reporting	FALSE		
- Cell Identity reporting indicator	FALSE		
- CPICH EC/No reporting indicator	TRUE		
- CPICH RSCP reporting indicator			
- Pathoss reporting indicator	FALSE		
	Report cells within active and/or monitored set		
	on used frequency or within active and/or		
	monitored set on non-used frequency		
- Maximum number of reported cells	2		
- Measurement validity	Not present		
<u> </u>	CELL DCH		
- Inter-frequency set update	Not Present		
- CHOICE report criteria	Periodic reporting criteria		
- Amount of reporting	Infinity		
- Reporting interval	8 seconds		
DPCH compressed mode status info	Not Present		

## MEASUREMENT REPORT (Step 9)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

# PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)".

Master Information Block (Step 12)

Information Element	Value/Remarks		
MIB value tag	2		

System Information Block type 11 (Step 12)

Information Element	Value/Remarks
Measurement control system information	
- Use of HCS	Not used
<ul> <li>Cell_selection_and_reselection</li> </ul>	CPICH_Ec/No
quality_measure	
<ul> <li>Intra-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	
<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>CHOICE Inter-frequency cell removal</li> </ul>	No inter-frequency cells removed
<ul> <li>New inter-frequency cells</li> </ul>	
<ul> <li>Inter-frequency cell id</li> </ul>	4
- Frequency info	
- CHOICE mode	FDD
- UARFCN uplink (Nu)	Set to uplink UARFCN for cell 4
- UARFCN downlink (Nd)	Set to downlink UARFCN for cell 4
- Cell info	
<ul> <li>Cell individual offset</li> </ul>	Not Present use default of 0 dB
<ul> <li>Reference time difference to cell</li> </ul>	Not Present
<ul> <li>Read SFN indicator</li> </ul>	FALSE
- CHOICE Mode	FDD
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	Set to the scrambling code of cell 4
- Primary CPICH Tx power	Not Present
<ul> <li>TX diversity indicator</li> </ul>	FALSE
<ul> <li>Cells for measurement</li> </ul>	Not Present
<ul> <li>Cell selection and re-selection info</li> </ul>	Not Present
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system</li> </ul>	Not Present
information	
<ul> <li>UE Internal measurement system information</li> </ul>	Not Present

# SYSTEM INFORMATION CHANGE INDICATION (Step 13)

[	Information Element	Value/Remarks
	BCCH modification info	
	- MIB Value tag	2

## CELL UPDATE (Step 15)

Information Element	Value/Remarks
U-RNTI	Check to see if same to value assigned in P3
	or P5RRC CONNECTION SETUP message
Cell update cause	Check to see if it is set to "Cell Reselection"
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

## CELL UPDATE CONFIRM (Step 16)

Use the same message sub-type found in Annex A.

### 8.4.1.6.5 Test Requirement

After step 4 the UE shall transmit RRC CONNECTION SETUP COMPLETE message with the IE "Measurement capability", indicating that both uplink and downlink inter-frequency measurements for FDD mode are supported.

After step 8 the UE shall transmit MEASUREMENT REPORT message to report cell 4's RSCP value in the IE "interfrequency cell measured results". After step 11 the UE shall stop sending MEASUREMENT REPORT messages, which contain inter-frequency measured results for cell 4's CPICH RSCP value.

After step 14 the UE shall transmit CELL UPDATE message on the uplink CCCH <u>of cell 4, and the "cell update cause"</u> <u>IE shall be set to to inform that a "cell reselection" to cell 4 has occurred</u>.

# 8.4.1.7 Measurement Control and Report: Intra-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.7.1 Definition

## 8.4.1.7.2 Conformance requirement

When_After transiting from CELL_FACH state to CELL_DCH state, the UE shall resume retrieve each set of measurement control information of measurement type "intra-frequency", measurement if it has previously stored such a measurement context in CELL_DCH state, and if the sis measurement context control information has "measurement validity" IE set to is indicated to be resume in "CELL_DCH"-state. The UE shall also re start the associated reporting activities for the resumed intra frequency measurement. If the UE has performed a cell reselection whilst out of CELL_DCH state and that the cell reselection has occurred after the storage of measurement control information, the UE shall not re-startdelete the stored intra-frequency measurement information previously designated to be resumed in CELL_DCH state.

In the case when the UE is not assigned any measurement tasksIf the UE has no stored intra-frequency measurements applicable to CELL_DCH state, it shall continue to monitor the list of cells in IE "intra-frequency neighbouring-cells info" stated in System Information Block type 11 or 12 messages. It shall transmit MEASUREMENT REPORT messages when the reporting criteria in IE "intra-frequency measurement reporting criteria" (if specified in System Information Block type 11 or 12 messages) are metfulfilled. When in CELL_DCH state, the UE shall override existing measurement and reporting contexts obtained from System Information Block type 11 or 12 messages, if a MEASUREMENT CONTROL message is received. The UE shall start to use the new measurement and reporting parameters received in the MEASUREMENT CONTROL message.

#### Reference

3GPP TS 25.331, clause 8.4.1.7.1

## 8.4.1.7.3 Test Purpose

To confirm that UE resumes retrieves stored measurement control information for intra-frequency measurements measurement type with "measurement validity" assigned to "CELL DCH", and the associated reporting whenafter it enters CELL_DCH state from CELL_FACH state, and that such measurement contexts (and optionally, the reporting context) have been stored for resumption in CELL_DCH state. To confirm that the UE continues to monitor the intra-frequency-neighbouring cells listed "intra-frequency cell info" IE in the System Information Block type 11 or 12 messages, if no previously assigned intra-frequency measurements applicable to CELL_DCH are presentstored. To confirm that the UE transmits MEASUREMENT REPORT messages if reporting conditions criteria stated in IE "intra-frequency measurement reporting criteria" in System Information Block type 11 or 12 messages have been satisfied are fulfilled. To confirm that a MEASUREMENT CONTROL message received in CELL_DCH state overrides the measurement and associated reporting contexts maintained in the UE by virtue of System Information Block type 11 or 12 messages.

## 8.4.1.7.4 Method of test

#### Initial Condition

System Simulator: 3 cells – <u>Cell 1, cell 2 and cell 3 are active. The initial configurations of the 3 cells in the SS shall</u> follow the values indicated in the column marked "T0" in table 8.4.1.7 1. The table is found in "Test Procedure" clause.

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u>.<u>CS-CELL_FACH_DCCH (state 6-6) or PS-CELL_FACH_DCCH (state 6-8) in cell 1 as specified in clause 7.4 of TS-34.108, depending on the CN domain supported by the UE.</u>

#### **Test Procedure**

Table 8.4.1.7-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Para-meter	Unit	Ce	1	Ce	ll 2	Ce	3
		T0	T1	T0	T1	T0	T1
UTRA RF Channel Number		Cł	n. 1	Ch	i. 1	Ch	. 1
CPICH <u>Ec</u> RSCP	dBm <u>/3.84</u> MHz	- <del>72<u>60</u></del>	- 85 <u>122</u>	- <del>73<u>70</u></del>	- <del>73<u>60</u></del>	- <del>74<u>80</u></del>	- 74 <u>80</u>

#### Table 8.4.1.7-1

The UE is brought to CELL_FACH state in cell 1<del>, after it has successfully executed procedure P8 or P10 (depending on the CN domain supported by the UE) as specified in clause 7.4 of TS 34.108</del>. System Information Block type 12 message is changed with respect to the default message contents, specifying thatwith cell 2 is to be included in the neighbouring cell list for IE "intra-frequency cell info" measurement. Event 1e is selected in IE "Reporting information for state CELL_DCH", and "Intra-frequency measurement quantity" is set to CPICH RSCP.

SS send a RADIO BEARER RECONFIGURATION message to UE, <u>allocating and configures</u> dedicated physical channels on both uplink and downlink directions. Upon receiving such a message, tThe UE shall move to CELL_DCH state and then return RADIO BEARER RECONFIGURATION COMPLETE message and then move to CELL_DCH state. The UE shall send MEASUREMENT REPORT messages to indicate that the containing IE "mMeasured results" to report of cell 2's CPICH RSCP value and IE "event results" to report triggering of event type "1e", as the measurement quantity has exceeded the threshold value in System Information Block type 12 messages. After receiving the MEASUREMENT REPORT messages, SS transmits a MEASUREMENT CONTROL message in which it specifies that with only cell 3 included in the IE "intra-frequency cell info" measurement and IE "CHOICE reporting criteria" set to "periodic reporting" for cell 3 's CPICH RSCP shall be performed. After receiving such a message, the UE shall transmit another set of MEASUREMENT REPORT messages. SS verifies that only measurement readings for cell 3 's CPICH RSCP are included report in IE "cell measured results" in these messages.

Next, SS sends PHYSICAL CHANNEL RECONFIGURATION message to UE. In this message, the physical channel resources are switched to SS configures common physical channels - PRACH for both the uplink and S CCPCH for the downlink directions. The UE shall transit to CELL FACH state and then reply with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE and transits to CELL_FACH_state. SS waits for 16 seconds and checks the uplink RACH to confirm that no MEASUREMENT REPORT messages are received. SS transmits MEASUREMENT CONTROL message on the downlink DCCH. The key parameters specified in this message are: measurement command = 'setup', measurement type = 'intra-frequency measurement', measurement object = 'cell 2', reporting criteria = 'periodic reporting', measurement validity IE is present and "UE state" = "CELL_DCH". SS waits for 16 seconds, verifies that no MEASUREMENT REPORT messages are detected on the uplink DCCH., before SS sendsing another RADIO BEARER RECONFIGURATION message. allocating and configures dedicated physical channels to the UE. The UE shall then-return to CELL DCH state, transmit a RADIO BEARER RECONFIGURATION COMPLETE message and start to monitor cell 2the neighbour cell specified by the SS in the latest MEASUREMENT CONTROL message while the UE was previously in CELL_FACH state. The UE shall also resume periodic reporting of cell 2's CPICH RSCP measured results by sending MEASUREMENT REPORT messages. Following the reception of the MEASUREMENT REPORT message, SS commands the UE using MEASUREMENT CONTROL message to release measurement control information stored in "measurement identity" = 12-stop performing measurements and generation of reports for cell 2 CPICH RSCP. Thereafter, SS verifies that no MEASUREMENT REPORT messages are detected on the uplink DCCH. After this requirement is satisfied, SS sends MEASUREMENT CONTROL on the downlink DCCH once more. This message is identical to the one sent in step 105 (see specific message content).

In the next sequence, SS dispatches transmits a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH_a. In this message, and configures common physical channel are assigned to the UE. The UE shall transit to CELL FACH state and then respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then transit to CELL_FACH state. SS monitor the uplink DCCH once more to verify that no MEASUREMENT REPORT messages are detected. SS modifies the contents of Master Information Block and System Information Block type 12 messages, and then send SYSTEM INFORMATION CHANGE INDICATION message to UE. This is followed by a reconfiguration of the downlink transmission power of the respect cells according to the

settings in columns "T1" in Table 8.4.1.7-1. SS starts timer T305 and then waits for it to expire. The UE shall discover an "out-of-service" condition and initiate a cell re-selection procedure. This is verified in the SS when a CELL UPDATE message is received on the uplink CCCH with the "cell update cause" IE set to "cell reselection". SS transmits a CELL UPDATE CONFIRM message on the DCCH to end the cell update procedure. Next, SS sends a RADIO BEARER RECONFIGURATION message on the downlink DCCH, assigning dedicated physical channels in both uplink and downlink directions. The UE shall respond with a RADIO BEARER RECONFIGURATION COMPLETE message and then return to CELL_DCH state. SS checks that the UE does not generate any MEASUREMENT REPORT messages on the uplink DCCH.

# Expected Sequence

	Step	Direction	Message	Comment	
		UE SS			
	1	÷	System Information Block type 12	UE is initially in <u>PS-</u> <u>DCCH+DTCH FACH (state 6-</u> <u>11) CELL_FACH</u> in cell 1, <u>after having successfully</u> executed precedure <u>PS</u> or	
				P10, depending on the supported CN domain. Refer	
				details. System Information Block type 12 messages are	
				changed <u>with respect to the</u> <u>default contents</u> according to the descriptions in "Specific	
	2	÷	RADIO BEARER RECONFIGURATION	Allocates SS configures	
	3	$\rightarrow$	RADIO BEARER RECONFIGURATION	UE shall move to CELL_DCH state.	
	4	$\rightarrow$	MEASUREMENT REPORT	Reports cell 2's CPICH RSCP measurement value.	
	5	÷	MEASUREMENT CONTROL	Specifies Only cell 3 as the measurement object for is included in the IE "intra- frequency measurementcell info"	
	6	$\rightarrow$	MEASUREMENT REPORT	UE shall report the estimated value for cell 3's CPICH RSCP reading in IE "cell measured results" only.	
İ	7	÷	PHYSICAL CHANNEL RECONFIGURATION	Allocates <u>SS configures</u> PRACH and S-CCPCH physical channels.	
	8	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.	
	9			SS waits for 16 seconds and checks that no MEASUREMENT REPORT messages are sent by UE.	
	10	÷	MEASUREMENT CONTROL	SS instructs the UE to perform setup intra-frequency measurement and reporting for cell 2. These activities shall be resumed if the UE subsequently transits Measurement validity" IE is set to CELL_DCH state again.	
	11			SS once again waits for 16 seconds and verifies that no MEASUREMENT REPORT messages are sent by UE.	
	12	÷	RADIO BEARER RECONFIGURATION	SS configures Ddedicated physical channels are assigned to the UE in this message.	
•	13	$\rightarrow$	RADIO BEARER RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.	
1	14	$\rightarrow$	MEASUREMENT REPORT	UE begins to report cell 2's measured results for CPICH RSCP-again.	
	15	÷	MEASUREMENT CONTROL	Terminate all the intra- frequency measurement and <u>reporting</u> activitiesy related to cell 2"measurement identity" = 12.	

Step	Direction	Message	Comment
	UE SS		
16			SS waits for 16 seconds and verifies that UE stop transmitting MEASUREMENT REPORT messages.
17	÷	MEASUREMENT CONTROL	This message is the same as in step 5
18	÷	PHYSICAL CHANNEL RECONFIGURATION	Allocates common physical channels.
19	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
20			SS checks that no MEASUREMENT REPORT messages are received.
21	<b></b>	Master Information Block System Information Block type 12	System Information Block type 12 messages are modified to include cell 2 and cell 3 into neighbouring cells list for intra- frequency type measurements. <del>SS</del> reconfigures the downlink transmission power settings for cell 1 to cell 3 according to columns "T1" in Table 8.4.1.7- 1, runs timer T305, and then waits until T305 expires.
<u>21a</u>	£	SYSTEM INFORMATION CHANGE INDICATION	SS reconfigures the downlink transmission power settings for cell 1 to cell 3 according to columns "T1" in Table 8.4.1.7- <u>1, runs timer T305, and then</u> waits until T305 expires.
22	→	CELL UPDATE	UE shall re-selects to cell 2 and then perform a cell update procedure.
23	÷	CELL UPDATE CONFIRM	UE shall stay in CELL_FACH state.
24	→	RADIO BEARER RECONFIGURATION	Dedicated physical channels are assigned to the UE in this message.
25	<del>~</del>	RADIO BEARER RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
26			SS checks that no MEASUREMENT REPORT messages are received on uplink DCCH.

# Specific Message Content

I

System Information Block type 12 (Step 1)

FACH measurement occasion info     Not Present       Measurement occasion info     Not Present       Intra-frequency measurement identity     10       - Intra-frequency cell info     10       - Intra-frequency cell info     10       - Reference time difference to cell     0       - Reference time difference to cell     0       - Reference time difference to cell     0       - Primary CPICH Info     FALSE       - Primary CPICH Info     FALSE       - Primary CPICH Info     FALSE       - Intra-frequency measurement quantity     FResent       - Intra-frequency measurement quantity     FResent       - Intra-frequency measurement or RACH     No report       - Reporting information for state CELL_DCH     No report       - Resporting quantities for active set cells     FALSE       - SFN-SFN observed time difference reporting indicator     FALSE       - Cell identity reporting indicator     FALSE       - Cell dentity reporting indicator     FALSE <tr< th=""><th>ĺ</th><th>Information Element</th><th>Value/Remark</th></tr<>	ĺ	Information Element	Value/Remark
Procent indexation information       - Intra-frequency measurement system       10         - Intra-frequency cell info ist       10         - Intra-frequency cell info ist       0         - New information       - Intra-frequency cell info ist         - CHOICE intra-frequency cell info       0         - Read SFN Indicator       0         - Cell individual offset       0         - Cell is election and Re-selection info       0         - Cell is election and Re-selection info       0         - Intra-frequency measurement quantity       0         - Intra-frequency measurement quantity       0         - Intra-frequency engoing quantities for active set cells       0         - SFN-SFN observed time difference reporting indicator       0		EACH mossurement accession info	Not Procont
Intra-frequency measurement identity         10           Intra-frequency measurement identity         10           Intra-frequency measurement identity         10           Intra-frequency measurement identity         10           Intra-frequency cell ind ist         10           Intra-frequency cell identity         10           Intra-frequency measurement identity         10           Intra-frequency cell id         10           Read SFN Indicator         6           Primary CPICH Info         6           Primary CPICH Info         7           Intra-frequency measurement quantity         8           Intra-frequency measurement quantity         10           Intra-frequency measurement for RACH         Nor report           Pathose reporting indicator         7           Cell synchronisation information reporting indicator         7           Pathose reporting indicator         7           Pathose reporting indicator         7 <t< th=""><th></th><th>Magazine and constral evidence information</th><th>NOLFIESEII</th></t<>		Magazine and constral evidence information	NOLFIESEII
<ul> <li>Inita-frequency measurement identity</li> <li>Intra-frequency cell removal</li> <li>New intra-frequency cell removal</li> <li>New intra-frequency cell removal</li> <li>New intra-frequency cell removal</li> <li>New intra-frequency cell identity</li> <li>CHOICE intra-frequency cell identity</li> <li>Cell individual offset</li> <li>Cell is for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Filter Coefficient</li> <li>Maximum number of reported cells on RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell identity reporting indic</li></ul>		Measurement control system information	
Intra-frequency measurement identity       10         Intra-frequency cell into list       10         Remove no intra-frequency cells       Remove no intra-frequency cells         Intra-frequency cell individual offset       0 dB         - Cell individual offset       0 dB         - Cell individual offset       0 dB         - Read SFN Indicator       0 dB         - Primary CPICH Info       FALSE         - Primary CPICH TX power       FALSE         - Cell selection and Re-selection info       Cells for measurement quantity         - Intra-frequency measurement quantity       0         - Intra-frequency measurement for RACH       No report         - Reporting information for state CELL_DCH       No report         - Reporting information for state CELL_DCH       No report         - Reporting indicator       CPICH RSCP reporting indicator         - CPICH EXNo reporting indicator       FALSE         - CPICH RSCP report		- Intra-frequency measurement system	
<ul> <li>Intra-frequency measurement identity</li> <li>Intra-frequency cell iremoval</li> <li>New intra-frequency cell removal</li> <li>New intra-frequency cell iremoval</li> <li>New intra-frequency cell iremoval</li> <li>Cell individual offset</li> <li>Cell is for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Fiter Coefficient</li> <li>Maximum number of reported cells on RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell identity reporting ind</li></ul>		information	
- Intra-frequency cell into list     - Intra-frequency cell removal     - New intra-frequency cell id     - Intra-frequency cell id     - Intra-frequency cell id     - Cell indo     - Cell indo     - Cell individual offset     - Cell selection and Re-selection info     - Cell selection information for state CELL_DCH     reporting     - Maximum number of reported cells on RACH     - Reporting indicator     - Cell selection information for state CELL_DCH     - Reporting indicator     - Cell selection information reporting     indicator     - Cell dentity reporting indicator     - Cell cent RSCP reporting indicator     - Cell dentity reporting indicator     - Cell cent RSCP reporting indicator     - Cell Section reporting     indicator     - Cell Section reporting indicator     - Cell Section reporting indicator     - Cell cent RSCP reporting indicator     - Cell Section section reporting     - Cell Section section reporting     - Ce		<ul> <li>Intra-frequency measurement identity</li> </ul>	10
<ul> <li>CHOICE intra-frequency cell removal</li> <li>New intra-frequency cell is</li> <li>Neurina-frequency cell id</li> <li>Cell individual offset</li> <li>Cell individual offset</li> <li>Cell individual offset</li> <li>CHOICE mode</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Reselection info</li> <li>Cells for measurement</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting quantities for active set cells</li> <li>SFM-SFN observed time difference reporting indicator</li> <li>CPI Servesting quantities for active set cells</li> <li>SFM-SFN observed time difference reporting indicator</li> <li>CPI dentity reporting indicator</li> <li>Pathoss /li></ul>		<ul> <li>Intra-frequency cell info list</li> </ul>	
<ul> <li>New intra-frequency info list</li> <li>Intra-frequency cell id</li> <li>Cell individual offset</li> <li>Cell individual offset</li> <li>Cell individual offset</li> <li>Cell add SFN Indicator</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH TX power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cell selection and re-selection information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Pathoss reporting indicator</li> <li></li></ul>		<ul> <li>CHOICE intra-frequency cell removal</li> </ul>	Remove no intra-frequency cells
<ul> <li>Intra-frequency cell id</li> <li>Cell indo</li> <li>Cell indo</li> <li>Cell individual offset</li> <li>Read SFN Indicator</li> <li>CHOICE mode</li> <li>Primary CPICH Info</li> <li>Cells for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement of RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell Cerbon reporting indicator</li> <li>Pathoss reporting indicator</li> <li>Pathoss reporting indicator</li> <li>Pathoss reporting indicator</li> <li>Pathoss reporting indicator</li></ul>		<ul> <li>New intra-frequency info list</li> </ul>	
<ul> <li>Cell info</li> <li>Cell individual offset</li> <li>Cell individual offset</li> <li>Reference time difference to cell</li> <li>Read SFN Indicator</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH TX power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cell selection and Re-selection information for state CELL_DCH</li> <li>Intra-frequency reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Primary Scrambling code</li> <li>Ww</li> <li>We with the sended</li> <li>Primary Scrambling code</li> <li>With and the sended</li> <li>Cell sporting indecator</li> <li>Primary Scrambling code</li> <li>With</li></ul>		- Intra-frequency cell id	Set to id of cell 2
<ul> <li>Call matrixed offset</li> <li>Reference time difference to cell</li> <li>Read SFN indicator</li> <li>CHOICE mode</li> <li>Primary Scrambling Code</li> <li>Primary Scrambling Code</li> <li>Primary Scrambling Code</li> <li>Primary CPICH Info</li> <li>Primary CPICH Tx power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cells for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting normation for state CELL_DCH</li> <li>Intra-frequency propring quantity</li> <li>Reporting information for state CELL_DCH</li> <li>Set to same code as used for cell 2</li> <li>Not Present</li> <li>Not Present</li> <li>Not Present</li> <li>No report</li> <li>Call identity reporting indicator</li> <li>CPICH EXON reporting indicator</li> <li>Parameter required for each event</li> <li>Primary Scrambling Code</li> <li>With resent</li> <li>Primary Scrambling code</li> <li>With resent</li> <li>Primary Scrambling code</li> <li>With resent</li> <li>Primary Scrambling code</li> <li>P</li></ul>		- Cell info	
<ul> <li>Reference time difference to cell</li> <li>Read SFN Indicator</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH TX power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cell selection and Re-selection info</li> <li>Cells for measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting information for state CELL_DCH</li> <li>Not present</li> <li>No report</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Parameter required for each ev</li></ul>		- Cell individual offset	0 dB
<ul> <li>Read SFN Indicator</li> <li>CHOICE mode</li> <li>Primary CPICH Info</li> <li>Cell selection and Re-selection info</li> <li>Cells for measurement quantity</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting</li> <li>indicator</li> <li>Cell synchronisation information reporting</li> <li>indicator</li> <li>Cell identify reporting indicator</li> <li>CPICH Er/No reporting indicator</li> <li>CPICH Er/No reporting indicator</li> <li>Cell identify reporting indicator</li> <li>CHOICE Er/No reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identify</li> <li>Triggering condition 1</li> <li>Triggering condition 1</li> <li>Triggering condition 1</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting quantities for detected cells</li> <li>Cells forbidden to affect reporting</li> <li>Cell identificator</li></ul>		- Reference time difference to cell	0 chins
- CHOICE mode     - Primary Scrambling Code     - Primary Corplication     - Cells for measurement quantity     - Fitter Coefficient     - Measurement quantity     - Intra-frequency measurement for RACH     reporting information for state CELL_DCH     - Natimum number of reported cells on RACH     - Reporting quantities for active set cells     - SFN-SFN observed time difference reporting     indicator     - Cell synchronisation information reporting     - Cell synchronisation information reporting     indicator     - Cell synchronisation information reporting     - Parameter required for each event     - Intra-frequency event identity     - Triggering condition 1     - Triggering condition 1     - Triggering condition 1     - Primary CPICH Info     - Pri		- Read SEN Indicator	FALSE
<ul> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Info</li> <li>Primary CPICH Tx power</li> <li>Trusy CPICH Tx power</li> <li>Trusy CPICH Tx power</li> <li>Trusy CPICH Info</li> <li>Cells selection and Re-selection info</li> <li>Cells for measurement quantity</li> <li>Intra-frequency measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell CE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>ChloCE Mode</li> <li>Primary CPICH Info</li> <li>Primary CPICH Inf</li></ul>		- CHOICE mode	FDD
<ul> <li>Primary Scrambling Code</li> <li>Primary Scrambling Code</li> <li>Primary Scrambling Code</li> <li>Primary CPICH TX power</li> <li>Triggering condition 1</li> <li>Primary CPICH TX power</li> <li>Primary CPICH Info</li> <li>Primary CP</li></ul>			
<ul> <li>Primary CPICH TX power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cells for measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH reporting</li> <li>Maximum number of reported cells on RACH</li> <li>Reporting finformation for state CELL_DCH</li> <li>Intra-frequency reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li< th=""><th></th><th>- Filliary CFICH III0</th><th>Cat to some and an used for call 0</th></li<></ul>		- Filliary CFICH III0	Cat to some and an used for call 0
<ul> <li>Primary CPICH TX power</li> <li>TX Diversity Indicator</li> <li>Cell selection and Re-selection info</li> <li>Cell selection and Re-selection info</li> <li>Cell for measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting information for state CELL_DCH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting condition 2</li></ul>		- Primary Scrambling Code	Set to same code as used for cell 2
<ul> <li>1X Diversity indicator</li> <li>Cell's election and Re-selection info</li> <li>Cell's for measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting quantities for active set cells on RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>CPICH RSCP reporting</li></ul>		- Primary CPICH TX power	Not Present
<ul> <li>Cell selection and Re-selection into</li> <li>Cells for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting quantites for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell dentity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH BC/P reporting indicator</li> <li>CPICH BC/P reporting indicator</li> <li>CPICH BC/P reporting indicator</li> <li>CPICH BC/P reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CHOICE report reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting quantities for active reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary crambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Probrament activation threshold</li> <li>Choing deactivation threshold</li> <li>Choing deactivation threshold</li> <li>Choing deactiv</li></ul>		- TX Diversity Indicator	FALSE
<ul> <li>Cells for measurement</li> <li>Intra-frequency measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH reporting</li> <li>Maximum number of reported cells on RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH RSCP</li> <li>No report</li> <li>No report</li> <li>FALSE</li> <li>No report</li> <li>FALSE</li> <li>FALSE</li> <li>No report</li> <li>Set ot the scrambling code of cell 2</li> <li>Not present</li> <li>Not present</li> <li>Not pr</li></ul>		- Cell selection and Re-selection info	Not Present - use default values
<ul> <li>Intra-frequency measurement quantity</li> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH reporting</li> <li>Intra-frequency reported cells on RACH</li> <li>Reporting information for state CELL_DCH</li> <li>Intra-frequency reporting quantity</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH E:/N to reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Pathoss reporting indicator</li></ul>		<ul> <li>Cells for measurement</li> </ul>	Not Present
- Intra-frequency measurement quantity       0         - Filter Coefficient       CPICH RSCP         - Measurement quantity       No report         - Intra-frequency measurement for RACH       No report         - Reporting information for state CELL_DCH       No report         - Intra-frequency reporting quantities for active set cells       No report         - SFN-SFN observed time difference reporting indicator       FALSE         - Cell identity reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - Reporting quantities for monitored set cells       No report         - SFN-SFN observed time difference reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - Reporting quantities for monitored set cells       No report         - SFN-SFN observed time difference reporting indicator       FALSE         - Cell synchronisation information reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - CPICH BC/N propring indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE			
<ul> <li>Filter Coefficient</li> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH reporting information for state CELL_DCH</li> <li>Intra-frequency reporting quantity</li> <li>Reporting quantities for active set cells indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH E:/No reporting indicator</li> <li>CPICH RSCP reporting reporting reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathoss re</li></ul>		<ul> <li>Intra-frequency measurement quantity</li> </ul>	0
<ul> <li>Measurement quantity</li> <li>Intra-frequency measurement for RACH</li> <li>Reporting information for state CELL_DCH</li> <li>Intra-frequency reporting quantity</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cell is forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parting deactivation threshold</li> </ul>		- Filter Coefficient	CPICH RSCP
<ul> <li>Intra-frequency measurement for RACH reporting</li> <li>Maximum number of reported cells on RACH</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>CHOICE Mode</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parlorment curvitient thrapheld</li> </ul>		<ul> <li>Measurement quantity</li> </ul>	Not Present
reporting - Maximum number of reported cells on RACH - Reporting information for state CELL_DCH - Intra-frequency reporting quantity - Reporting quantities for active set cells - SFN-SFN observed time difference reporting indicator - Cell identity reporting indicator - Cell identity reporting indicator - CPICH RSCP reporting indicator - CPICH RSCP reporting indicator - Reporting quantities for monitored set cells - SFN-SFN observed time difference reporting indicator - Reporting quantities for monitored set cells - SFN-SFN observed time difference reporting indicator - Cell identity reporting indicator - Cell dentity reporting indicator - CPICH RSCP reporting indicator - CPICH RSCP reporting indicator - CPICH RSCP reporting indicator - Primary scrambling code - W - Hysteresis - Threshold used frequency - Reporting deactivation threshold Paring deactivation threshold - Reporting deactivation threshold		- Intra-frequency measurement for RACH	
<ul> <li>Maximum number of reported cells on RACH</li> <li>Reporting information for state CELL_DCH</li> <li>Intra-frequency reporting quantity</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Applemement activation threshold</li> <li>Applemement activation threshold</li> </ul>		reporting	No report
- Reporting information for state CELL_DCH         - Intra-frequency reporting quantity         - Reporting quantities for active set cells         - SFN-SFN observed time difference reporting indicator         - Cell synchronisation information reporting indicator         - Cell identity reporting indicator         - CPICH ECNo reporting indicator         - CPICH RSCP reporting indicator         - Pathloss reporting indicator         - Reporting quantities for monitored set cells         - SFN-SFN observed time difference reporting indicator         - Reporting quantities for monitored set cells         - SFN-SFN observed time difference reporting indicator         - Cell identity reporting indicator         - CHOLE Ereport criteria         - Reporting quantities for detected cells         - CHOICE report criteria         - Parameter required for each event         - Intra-frequency event identity         - Triggering condition 1         - Triggering condition 2         - Primary Scrambling code         - Primary CPICH Info         - Primary scrambli		- Maximum number of reported cells on RACH	
<ul> <li>Intra-frequency reporting quantity</li> <li>Reporting quantities for active set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Partoremetat contriction throshold</li> </ul>		- Reporting information for state CELL DCH	
- Reporting quantities for active set cells       No report         - SFN-SFN observed time difference reporting indicator       FALSE         - Cell synchronisation information reporting indicator       FALSE         - Cell identity reporting indicator       FALSE         - CPICH Ec/No reporting indicator       FALSE         - Pathloss reporting quantities for monitored set cells       No report         - SFN-SFN observed time difference reporting indicator       FALSE         - Pathloss reporting indicator       FALSE         - SFN-SFN observed time difference reporting indicator       FALSE         - SFN-SFN observed time difference reporting indicator       FALSE         - SFN-SFN observed time difference reporting indicator       FALSE         - Cell identity reporting indicator       FALSE         - Cell identity reporting indicator       FALSE         - CPICH RSCP reporting indicator       FALSE         - Reporting quantities for detected cells       Not present         - Reporting quantities for detected cells       Intra-frequency measurement reporting criteria         - Parameter required for each event       1e         - Intra-frequency event identity       Not present         - Triggering condition 1       Monitored set cells         - Primary CPICH Info       FDD         - Primary		- Intra-frequency reporting quantity	
<ul> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pataloss reporting indicator</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary Scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Partorement contruction throshold</li> </ul>		- Reporting quantities for active set cells	No report
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<ul> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary crambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Partamet activation threshold</li> <li>Reporting deactivation threshold</li> </ul>		indicator	FALSE
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<ul> <li>CHCH RSCP reporting indicator</li> <li>Pathloss reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Protement entring threshold</li> <li>Protement entring threshold</li> <li>Primary cannot be threshold</li> <li>Choice Mathematication threshold</li> <l< th=""><th></th><th>CPICH BSCD reporting indicator</th><th></th></l<></ul>		CPICH BSCD reporting indicator	
<ul> <li>Pathloss reporting indicator</li> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary cPICH Info</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Panlocs reporting</li> <li>Choice and frequency</li> <li>Choice and frequency</li> <li>Choice and frequency</li> <li>Choice and frequency</li> <li>Choice mode</li> <li>Primary condition 1</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Choice and frequency</li> <li>Choice and frequenc</li></ul>		- CPICH RSCP reporting indicator	FALSE
<ul> <li>Reporting quantities for monitored set cells</li> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary cPICH Info</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deativation threshold</li> <li>Parlows and frequency</li> <li>Reporting deativation threshold</li> <li>Parlows and the present</li> <li>Not present</li> <li>O dB</li> <li>-79-30 dBm</li> <li>Not present</li> <li>Not pr</li></ul>		- Pathioss reporting indicator	N
<ul> <li>SFN-SFN observed time difference reporting indicator</li> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Patameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Choice activation threshold</li> <li>Premement entry to the threshold</li> <li>CHOICE may</li> <li>Cells forbidden to threshold</li> <li>Choice frequency</li> <li>Choice frequency<th></th><th>- Reporting quantities for monitored set cells</th><th>No report</th></li></ul>		- Reporting quantities for monitored set cells	No report
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<ul> <li>Cell synchronisation information reporting indicator</li> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter trephoted</li> </ul>		indicator	FALSE
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<ul> <li>Cell identity reporting indicator</li> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter required for threshold</li> <li>Call identity</li> <li>Friggering condition 1</li> <li>CHOICE Mode</li> <li>Primary scrambling code</li> <li>W</li> <li>Choice frequency</li> <li>Choice fre</li></ul>		indicator	TRUE
<ul> <li>CPICH Ec/No reporting indicator</li> <li>CPICH RSCP reporting indicator</li> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary Scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Partice to the scrambling code</li> <li>Outpresent</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Primary crambling code</li> <li>Outpresent</li> <li></li></ul>		<ul> <li>Cell identity reporting indicator</li> </ul>	FALSE
- CPICH RSCP reporting indicatorFALSE- Pathloss reporting indicatorNot present- Reporting quantities for detected cellsIntra-frequency measurement reporting criteria- CHOICE report criteria1e- Parameter required for each event1e- Intra-frequency event identityNot Present- Triggering condition 1Monitored set cells- Triggering condition 2Not present- Reporting rangeNot present- Cells forbidden to affect reportingFDD- CHOICE ModeFDD- Primary CPICH InfoSet to the scrambling code of cell 2- W- Musteresis- Threshold used frequencyNot present- Threshold used frequencyNot present- Reporting deactivation thresholdNot present		<ul> <li>CPICH Ec/No reporting indicator</li> </ul>	TRUE
<ul> <li>Pathloss reporting indicator</li> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter required for each event</li> <li>Not present</li> <li>O</li> </ul>		- CPICH RSCP reporting indicator	FALSE
<ul> <li>Reporting quantities for detected cells</li> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter required for each event</li> <li>Intra-frequency measurement reporting criteria</li> <li>Not Present</li> <li>Not Present</li> <li>Not present</li> <li>Not present</li> <li>O</li> </ul>		<ul> <li>Pathloss reporting indicator</li> </ul>	Not present
<ul> <li>CHOICE report criteria</li> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter required for each event</li> <li>CHOICE Mode</li> <li>Primary code</li> <li>Primary code</li> <li>Not present</li> <li>O dB</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Paper primery of the strandal</li> </ul>		- Reporting quantities for detected cells	Intra-frequency measurement reporting criteria
<ul> <li>Parameter required for each event</li> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Parameter required for each event</li> <li>Not Present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Set to the scrambling code of cell 2</li> <li>Not present</li> <li>O dB</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Not present</li> <li>Not present</li> </ul>		- CHOICE report criteria	
<ul> <li>Intra-frequency event identity</li> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Not Present</li> <li>Monitored set cells</li> <li>Not present</li> <li>Not present</li> <li>Set to the scrambling code of cell 2</li> <li>Not present</li> <li>O dB</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Not present</li> <li>Not present</li> </ul>		- Parameter required for each event	1e
<ul> <li>Triggering condition 1</li> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Paplemember ortivation threshold</li> <li>Monitored set cells</li> <li>Not present</li> <li>Not present</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Set to the scrambling code of cell 2</li> <li>Not present</li> <li>O dB</li> <li>Threshold used frequency</li> <li>Not present</li> <li>Not present</li> <li>O</li> </ul>		- Intra-frequency event identity	Not Present
<ul> <li>Triggering condition 2</li> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>O dB</li> <li>-79-80 dBm</li> <li>Not present</li> <li>Not present</li> <li>O primary code</li> <li>Not present</li> <li>O dB</li> <li>-79-80 dBm</li> <li>O the scrambling code</li> <li>O the scrambling code</li> <li>O the scrambling code of cell 2</li> </ul>		- Triggering condition 1	Monitored set cells
<ul> <li>Reporting range</li> <li>Cells forbidden to affect reporting</li> <li>CHOICE Mode</li> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Not present</li> <li>Not present</li> <li>O dB</li> <li>-79-80 dBm</li> <li>Not present</li> <li>Not present</li> <li>O the scrambling code of cell 2</li> </ul>		- Triggering condition 2	Not present
- Cells forbidden to affect reporting       - FDD         - CHOICE Mode       - Primary CPICH Info         - Primary Scrambling code       Set to the scrambling code of cell 2         - Primary scrambling code       Not present         - W       0 dB         - Hysteresis       -79-80 dBm         - Threshold used frequency       Not present         - Reporting deactivation threshold       Not present		- Reporting range	Not present
- CHOICE Mode     - Primary CPICH Info       - Primary scrambling code     - Not present       - W     0 dB       - Hysteresis     -79-80 dBm       - Threshold used frequency     Not present       - Reporting deactivation threshold     Not present		- Cells forbidden to affect reporting	FDD
<ul> <li>Primary CPICH Info</li> <li>Primary scrambling code</li> <li>W</li> <li>Hysteresis</li> <li>Threshold used frequency</li> <li>Reporting deactivation threshold</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>Not present</li> <li>O dB</li> </ul>		- CHOICE Mode	
- Primary scrambling code     Not present       - W     0 dB       - Hysteresis     -79-80 dBm       - Threshold used frequency     Not present       - Reporting deactivation threshold     Not present		- Primary CPICH Info	Set to the scrambling code of cell 2
- W     0 dB       - Hysteresis     -79-80 dBm       - Threshold used frequency     Not present       - Reporting deactivation threshold     Not present		- Primary scrambling code	Not present
- Hysteresis - Threshold used frequency - Reporting deactivation threshold - Reporting teactivation threshold - Reporting deactivation threshold - Report activation threshold - Rep		- W	0 dB
- Threshold used frequency     - Reporting deactivation threshold     Reporting threporting threshold     Reporting threshold     Reporting thres		- Hysteresis	- <del>79</del> -80 dBm
- Reporting deactivation threshold     Replacement estimation threshold		- Threshold used frequency	Not present
Performing deadwater interstold Not present		- Reporting deactivation threshold	Not present
		- Replacement activation threshold	0

Information Element	Value/Remark
- Time to trigger	Infinity
- Amount of reporting	16 seconds
- Reporting Interval	
<ul> <li>Reporting cell status</li> </ul>	Report cells within monitored set cells on used
<ul> <li>CHOICE reported cells</li> </ul>	frequency
	1
<ul> <li>Maximum number of reported cells</li> </ul>	Not Present
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	Not Present
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system</li> </ul>	
information	Not Present
<ul> <li>UE internal measurement system information</li> </ul>	

# RADIO BEARER RECONFIGURATION (Step 2, Step 12 and Step 24)

Use the same message type found in Annex A, with condition set to A4.

# MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency
	measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is present and set to cell
	identity of cell 2Check to see if this IE is
<ul> <li>SFN-SFN observed time difference</li> </ul>	absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional measured results	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it's set to 'Intra-frequency
	measurement event results'
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if this IE is set to '1e'
<ul> <li>Cell measurement event results</li> </ul>	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

# MEASUREMENT CONTROL (Step 5 and Step 17)

|

Information Element	Value/Remark
Measurement Identity	140
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Triager Reporting	Event Triager
Mode	
Additional measurements list	Not Present
	Intra-frequency measurement
- Intra-frequency cell info list	inita-nequency measurement
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
Now intra frequency info list	Remove no initia-frequency cells
- New Initia-frequency fillo list	Set to id of coll 2
- Cell individual offset	0 dB
Peterence time difference to cell	
- Reference time difference to cell Bood SEN Indicator	
- Read SFN Indicator	
	לעל
- Philliary CPICH Inio	Sat to some code on used for call 2
- Primary Scrambling Code	Set to same code as used for cell 3
- Philliary CPICH TX power	
- TX Diversity indicator	FALSE Not Drocomt
- Cell selection and Re-selection info	Not Present
- Cells for measurement	On the interference
- Intra-frequency cell ld	
- Intra-frequency measurement quantity	
- Filter Coefficient	
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	Neveret
- SFIN-SFIN observed time difference reporting	No report
Indicator	FALOE
- Cell synchronisation information reporting	FALSE
Indicator	FALOE
- Cell identity reporting indicator	FALSE
- CPICH EC/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	
- Fallioss reporting indicator	FALSE
- Reporting quantities for monitored set cells	No report
- SFN-SFN Observed time difference reporting	No report
Call experience information reporting	
- Cell synchronisation mormation reporting	FALSE
Coll identity reporting indicator	TDUE
CDICH Ec/No reporting indicator	
- CFICH EC/NO reporting indicator	
Pathlace reporting indicator	
- Faillies reporting indicator	Not procent
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
	Intra fraguancy managurament critoria
- Choice report ciliena Parameters required for each event	Intra-frequency measurement cintena
- Falameters required for each event	10
- Initia-frequency event identity	Net Present
- mggening condition 2	Not Flesent Manitarad act calls
- mggening condition 2	Not Present
- Reporting Range	Not Present
- Filinary CFICH INIO	Cot to the same accembling code for call 0
	Set to the same scrambling code for cell 3
- VV	
- Trysteresis Deporting depotition threshold	V uD Not Procent
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	
- <del>Keponing</del> I nresnola <u>used frequency</u>	- <del>01-<u>20</u>0</del> 00111
- Ilme to Ingger	

Information Element	Value/Remark
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	
- CHOICE reported cells	Report cells within monitored set cells on used frequency
<ul> <li>Maximum number of reported cells</li> </ul>	1
DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT (Step 6)

	Information Element	Value/Remarks
	Measurement identity	Check to see if set to 104
-	Measured Results	
	- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
	<ul> <li>Intra-frequency measurement results</li> <li>Cell measured results</li> </ul>	
	- Cell Identity	Check to see if it is present and set to cell identity of cell 3
-	<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
	<ul> <li>Cell synchronisation information</li> <li>Primary CPICH Info</li> </ul>	Check to see if this IE is absent
	- Primary Scrambling Code	Check to see if it's the same code for cell 3
	- CPICH Ec/No	Check to see if this IE is absent
	- CPICH RSCP	Check to see if this IE is present
	- Pathloss	Check to see if this IE is absent
	Measured Results on RACH	Check to see if this IE is absent
	Additional measured results	Check to see if this IE is absent
	Event Results	
	- CHOICE event result	Check to see if it's set to 'Intra-frequency measurement event results'
	<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if this IE is set to '1e'
	<ul> <li>Cell measurement event results</li> <li>Primary CPICH info</li> </ul>	
	- Primary scrambling code	Check to see if it's the same code for cell 3

# PHYSICAL CHANNEL RECONFIGURATION (Step 7 and 18)

Use the same message sub-type found in Annex A, which is entitled "Packet to CELL_FACH from CELL_DCH in PS".

# MEASUREMENT CONTROL (Step 10)

Information Element	Value/Remark
Measurement Identity	12
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Event Trigger
Mede	
	Not Drocomt
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell into list	
<ul> <li>CHOICE intra- frequency cell removal</li> </ul>	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
<ul> <li>Intra-frequency cell id</li> </ul>	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
<ul> <li>Reference time difference to cell</li> </ul>	0 chips
- Read SEN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
Primary CDICH TX power	Net Present
- Plinary CPICH IX power	
- IX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present
- Cells for measurement	
- Intra-frequency cell id	Set to id of cell 2
<ul> <li>Intra-frequency measurement quantity</li> </ul>	
- Filter Coefficient	0
<ul> <li>Measurement quantity</li> </ul>	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell identity reporting indicator	EALSE
CPICH Ec/Ne reporting indicator	
- CFICH EC/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathioss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
<ul> <li>SFN-SFN observed time difference reporting</li> </ul>	No report
indicator	
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE
indicator	
<ul> <li>Cell identity reporting indicator</li> </ul>	TRUE
<ul> <li>CPICH Ec/No reporting indicator</li> </ul>	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	
CHOICE roport critoria	Intra frequency measurement criteria
- CHOICE report cillena	intra-nequency measurement chiena
- Parameters required for each event	4.
- Intra-irequency event identity	
- Triggering condition 1	Not Present
- Iriggering condition 2	Monitored set cells
- Reporting Range	Not Present
<ul> <li>Cells forbidden to affect Reporting range</li> </ul>	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 2
- W	Not Present
- Hysteresis	0 dB
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Reporting Threshold Used Frequency	-80 dBm
- Time to Trigger	0

Information Element	Value/Remark
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	
- CHOICE reported cell	Report cells within monitored set cells on used frequency
<ul> <li>Maximum number of reported cells</li> </ul>	1
DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT (Step 14)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 12
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
<ul> <li>Intra-frequency measurement results</li> <li>Cell measured results</li> </ul>	
- Cell Identity	Check to see if it is present and set to cell identity of cell 2Check to see if this IE is
<ul> <li>SFN-SFN observed time difference</li> </ul>	absent
- Cell synchronisation information	Check to see if this IE is absent
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IF is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional measured results	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it's set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if this IE is set to '1e'
- Cell measurement event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

# MEASUREMENT CONTROL (Step 15)

Information Element	Value/Remarks
Measurement Identity	12
Measurement Command	Release
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE Measurement type	Not Present
DPCH compressed mode status info	Not Present

# Master Information Block (Step 21)

Information Element	Value/Remarks
MIB Value Tag	2

System Information Block type 12 (Step 21)

|

Information Element	Value/Remark
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection	CPICH_Ec/No
quality_measure	
<ul> <li>Intra-frequency measurement system</li> </ul>	<del>13</del>
information	
<ul> <li>Intra-frequency measurement identity</li> </ul>	Not Present <u>13</u>
<ul> <li>Intra-frequency cell info list</li> </ul>	Cell 2 and Cell 3 are added
<ul> <li>CHOICE intra-frequency cell removal</li> </ul>	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
<ul> <li>Intra-frequency cell id</li> </ul>	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
<ul> <li>Reference time difference to cell</li> </ul>	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
<ul> <li>Primary CPICH TX power</li> </ul>	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present – use default values
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	
- Reference time difference to cell	
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Plillary CPICH III0 Drimory Scrembling Code	Set to some code on used for call 2
- Frinary Scrambling Code	Not Present
TX Diversity Indicator	
- Cell selection and Re-selection info	Not Present – use default values
- Cell selection and Re-selection into	Not Present
- Intra-frequency measurement quantity	Not i resent
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH	Not Present
reporting	
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	CPICH RSCP
- Measurement reporting mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting / Event Triggering Report	Periodic Reporting
Mode	
- CHOICE report criteria	Perioidical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	250 msec
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
- Traffic volume measurement system	Not Present
information	
<ul> <li>UE internal measurement system information</li> </ul>	Not Present

#### CELL UPDATE (Step 22)

Information Element	Value/Remarks
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000
	0001'
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

## CELL UPDATE CONFIRM (Step 23)

Use the default message content of the same message type in Annex A.

## 8.4.1.7.5 Test Requirement

After step 3 the UE shall report cell 2's CPICH RSCP value by transmitting MEASUREMENT REPORT messages.

After step 5 the UE shall delete all measurement and reporting contexts obtained from System Information Block type 12 messages. It shall transmit MEASUREMENT REPORT messages which contain measured results of cell 3's CPICH RSCP value only

After step 9 and step 11 the UE shall not transmit MEASUREMENT REPORT messages, which pertain to intrafrequency type measurement reporting.

After step 13 the UE shall resume the measurement and reporting activities as specified in MEASUREMENT CONTROL message received in step 10. The UE shall transmit MEASUREMENT REPORT messages, containing measured results of cell 2's CPICH RSCP value.

After step 15 the UE shall stop measurement activities pertaining to periodic reporting of cell 2's CPICH RSCP, no MEASUREMENT REPORT messages shall be detectable by the SS on the uplink DCCH.

After step 21 the UE shall re-select to cell 2 and initiate a cell update procedure. SS shall receive a CELL UPDATE message on the uplink CCCH of cell 2, with the "cell update cause" IE stated as "cell re-selection".

After step 25 the UE shall not resume measurements and any associated reporting activities for cell 3's CPICH RSCP, no MEASUREMENT REPORT messages shall be detectable by the SS in the uplink DCCH.

# 8.4.1.8 Measurement Control and Report: Inter-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.8.1 Definition

## 8.4.1.8.2 Conformance requirement

When transiting from CELL_FACH state to CELL_DCH state, the UE shall stop monitoring the list of inter frequency neighbour cells indicated assigned in the IE "inter-frequency cell info" in System Information Block type 11 or 12 messages. If the UE has a previously stored measurement control information of type "inter-frequency" measurement context marked as 'resume' and for which the IE "measurement validity" is present and the IE "UE state for reporting" has been assigned to "CELL_DCH", it shall resumeinstate the stored measurement and associated reporting activities after it has re-entered CELL_DCH state from CELL_FACH state. The UE shall be able to start or terminate activate or deactivate inter-frequency measurements by decoding the "DPCH compressed mode status info" IE in MEASUREMENT CONTROL messages.

#### Reference

3GPP TS 25.331 clause 8.4.1.7.2, 8.4.1.3

## 8.4.1.8.3 Test Purpose

To confirm that the UE erases all stop monitoring the list of cells assigned in the IE "inter-frequency cell info" measurement contexts received from in System Information Block type 11 or 12 while inwhen it transits from CELL_FACH state, when it moves to CELL_DCH state. To confirm that the UE resumes inter-frequency measurements and reporting stored previously in the UE for which the measurement control information has IE "measurement validity" assigned to the value "CELL_DCH", after it re-enters CELL_DCH state from CELL_FACH state. To confirm that the UE resumes inter-frequency measurement and reporting activities after it has received a MEASUREMENT CONTROL message specifying that a stored compressed mode pattern sequence be re-activated.

## 8.4.1.8.4 Method of test

#### Initial Condition

System Simulator: 3 cells – <u>Cells 1, cell 24 and cell 35 are active.</u> The initial configurations of the 3 cells in the SS shall follow the values indicated in table 8.4.1.8 1. The table is found in "Test Procedure" clause.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

## Test Procedure

Table 8.4.1.8-1 illustrates the downlink power to be applied for the 3 cells in this test.

Table	8.4.1.8-1
-------	-----------

Para- meter	Unit	Cell 1	Cell 4	Cell 5
UTRA RF Channel Number		Ch. 1	Ch. 2	Ch. 2
CPICH <u>Ec<mark>RSCP</mark></u>	dBm <mark>/3</mark> .84MH z	- <del>70<u>60</u></del>	- <del>73<u>75</u></del>	- <del>74<u>75</u></del>

The UE is in CELL_DCH state in cell 1₂, after successfully executing procedures P11 or P13 as specified in clause 7.4 of TS 34.108. Next, SS transmits MEASUREMENT CONTROL message to request the UE to perform add cell 5 into the IE "inter-frequency cell info" measurements for cell 5. In the MEASUREMENT CONTROL message, Tthe parameters of the IE "inter-frequency measurement reporting criteria" are as follow: event-triggered with event identity ='2c', reporting quantity = "CPICH RSCP", threshold for non-used frequency = '-85 dBm', hysteresis = '1.0dB', time to trigger = '10 seconds', amount of reporting = '1' and reporting interval = '0'. In the same message, IE "Measurement validity" is present and "UE state" is assigned the value 'CELL_DCH'. SS checks that no MEASUREMENT REPORT messages are detected on the uplink DCCH after it has transmitted the MEASUREMENT CONTROL message.

Following this action, SS sends a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH and commands the UE to switch from dedicated physical channels to configures PRACH and S-CCPCH_physical channels. The UE shall reconfigure itself to receive and transmit using the new common physical channels assigned, and send PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH. SS then-modifies the content of Master Information Block and System Information Block type 12 messages, such that cell 4 is included added in the list of neighbouring cells to be monitored for assigned in the IE "inter-frequency cell info" measurements. SS transmits SYSTEM INFORMATION CHANGE INDICATION message to UE. Once again, SS verifies that the UE does not transmit MEASUREMENT REPORT messages in the uplink direction.

SS sends PHYSICAL CHANNEL RECONFIGURATION message, and to allocate configures dedicated physical ehannels to the UE. In this message, SS commands the UE to start applying compressed mode mechanism for DPCH. The UE shall move to CELL DCH state and then reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_DCH state. SS waits for 10 seconds. The UE shall transmit <u>1</u> MEASUREMENT REPORT message, containing the selected frequency quality estimate (in this case CPICH RSCP) of cell 5. <u>The UE shall also report the triggering of event '2c' in the IE "Event results" of MEASUREMENT REPORT</u> <u>message.</u> SS verifies that this message does not contain measured results for cell 4. <u>After sending this message, the UE shall not transmit any more MEASUREMENT REPORT messages.</u> SS modifies the reporting criteria by transmitsting a MEASUREMENT CONTROL message on the downlink DCCH using AM-RLC. In this message, SS commands the UE to perform inter frequency measurement and reporting for cell 5 using modifies the measurement control information for measurement identity = "14" and set IE "CHOICE reporting criteria" to "periodic reporting criteria". mechanism. Upon receiving this message, tThe UE shall transmit MEASUREMENT REPORT message at 2 seconds interval. In the next sequence, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message and deactivates the compressed mode pattern sequence with "TGPSI" IE set to 1. The UE shall respond by sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and also stop the periodic reporting activities. Following this, SS sends a MEASUREMENT CONTROL message and reactivates the compressed mode status" IE. SS confirms that the UE has reconfigured itself to start measurement reporting again. The SS shall be able to receive MEASUREMENT REPORT messages continuously at 2 seconds interval.

#### **Expected Sequence**

Step	Direction	Message	Comment
_	UE SS		
1			The initial state of UE is in CELL_DCH state of cell 1, after executing procedure P11 or P13, depending on the supported CN domain. Refer
2	4		SS specifies inter-frequency
L		MEAGOREMENT CONTROL	measurement and reporting parameters for cell 5, with "measurement validity" IE present and "UE state" set to "CELL_DCH".
3			SS checks that no MEASUREMENT REPORT messages are detected on the uplink DCCH.
4	÷	PHYSICAL CHANNEL RECONFIGURATION	SS allocates configures PRACH and S-CCPCH physical resources.
5	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move <del>s</del> to CELL_FACH state.
6	÷	Master Information Block System Information Block type 12	SS modifies MIB and SIB 12 in order to include cell 4 into the neighbour_list of cells list for in IE "inter-frequency cell info"measurements.
7	÷	SYSTEM INFORMATION CHANGE INDICATION	After SS transmits this message, SS confirms that there are no transmissions of MEASUREMENT REPORT message in the uplink direction.
8	÷	PHYSICAL CHANNEL RECONFIGURATION	SS allocates configures dedicated physical channels and specifies with mode parameters
9	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE <u>shall</u> moves to CELL_DCH state.
10	→	MEASUREMENT REPORT	UE shall resume inter- frequency measurement task for cell 5 and transmit this message to report the measured CPICH RSCP value for cell 5.
11	÷	MEASUREMENT CONTROL	SS changes the reporting criteria for cell 5 to 'periodic reporting'
12	$\rightarrow$	MEASUREMENT REPORT	UE shall begin to transmit this message at 2 seconds interval.

Step	Direction	Message	Comment
	UE SS		
13	÷	PHYSICAL CHANNEL RECONFIGURATION	SS deactivates the currently used pattern sequence for compressed mode operation.
14	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE stays in CELL_DCH state. SS verifies that no MEASUREMENT REPORT messages are received.
15	÷	MEASUREMENT CONTROL	SS activates the pattern sequence stored by the UE.
16	<i>→</i>	MEASUREMENT REPORT	SS checks that MEASURE- MENT REPORT messages are received at 2 seconds interval.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element Value/Remark

Measurement Identity	14
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Event Trigger
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	
- Frequency info	Set to id of cell 5
- LIABECN uplink (Nu)	LIARECN of the unlink frequency for cell 5
- UAREON downlink (Nd)	LIARECN of the downlink frequency for cell 5
	OART ON OF THE downlink frequency for cell 5
- Cell individual offect	0 dB
- Cell Individual Offset	0 ub
- Reference time difference to cell	
- Read SFIN Indicator	FALSE
	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 5
- Primary CPICH IX power	Not Present
- TX Diversity Indicator	FALSE
- Cell <u>s</u> for measurement	
- Inter-frequency cell id	Set to id of cell 5
<ul> <li>Inter-frequency measurement quantity</li> </ul>	
<ul> <li>CHOICE reporting criteria</li> </ul>	Inter-frequency reporting criteria
- Filter Coefficient	0
<ul> <li>Measurement quantity for frequency quality</li> </ul>	CPICH RSCP
estimate	
<ul> <li>Inter-frequency reporting quantity</li> </ul>	
- UTRA Carrier RSSI	FALSE
<ul> <li>Frequency quality estimate</li> </ul>	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell Identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- Measurement validity	
- LIF State	CELL DCH
- Inter-frequency set undate	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	20
- Threshold used frequency	Not Present
- Mused frequency	Not Present
- w useu nequency	
Time to triager	10 00 10 occordo
- Time to trigger	Not Present
- Reporting cell status	Not FICSCHI Depart colle within active and/annexitient in t
	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitorea set on non-used frequency
- Maximum number of reported cells	<u>2</u>
- Parameters required for each non-used	
trequency	
- Threshold non used frequency	-85 dBm
- W non-used frequency	0.0
DPCH compressed mode status info	Not Present

I

## PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the same message sub-type found in Annex A titled "(Packet to CELL_FACH from CELL_DCH in PS)".

# Master Information Block (Step 6)

Information Element	Value/Remark
Value Tag	2

## System Information Block type 12 (Step 6)

Information Element	Value/Remark
FACH measurement occasion info	
<ul> <li>FACH Measurement occasion cycle length</li> </ul>	2
coefficient	
<ul> <li>Inter-frequency FDD measurement indicator</li> </ul>	TRUE
<ul> <li>Inter-frequency TDD measurement indicator</li> </ul>	FALSE
<ul> <li>Inter-RAT measurement indicators</li> </ul>	Not Present
Measurement control system information	
<ul> <li>Intra-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	
<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>CHOICE inter-frequency cells removal</li> </ul>	No inter-frequency cells removed
<ul> <li>New inter-frequency info list</li> </ul>	
- Inter-frequency cell id	Set to id of cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not Present – use default values
- Cells for measurement	Not Present
- Inter-RAT measurement system information	Not Present
- I rattic volume measurement system	Not Present
	Not Descent
<ul> <li>UE internal measurement system information</li> </ul>	Not Present

## PHYSICAL CHANNEL RECONFIGURATION (Step 8)

1

Use the same message sub-type found in Annex A, which is entitled "(Packet to CELL_DCH from CELL_FACH in PS)", with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
<ul> <li>Downlink DPCH power control information</li> </ul>	n
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset P _{Pilot-DPDCH}	TBD0
- DL rate matching restriction information	Not Present
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 25	6) Not Present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	<u>84</u>
- TGL1	<del>10</del> 7
- TGL2	5Not Present
- TGD	<del>15</del> 0
- TGPL1	353
- TGPL2	35Not Present
- RPP	Mode <del>1</del> 0
- ITP	Mode <del>1</del> 0
- CHOICE UL/DL Mode	UL and DL
<ul> <li>Downlink compressed mode method</li> </ul>	SF/2
- Uplink compressed mode method	<u>SF/2</u>
- Downlink frame type	AB
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	0

# MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency Inio	Check to app if not to the LIAPECN of the
	uplink frequency for cell 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 5
- UTRA carrier RSSI	Check to see if it is absent
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see it set to the same code for cell 5
	Check to see if it is absent
- CPICH RSCP	Check to see if it is present
- Pathioss Measured Depute on BACH	Check to see if it is absent
Event Results	
- CHOICE event result	Inter-frequency event results
- Inter-frequency event identity	Check to see if it's set to '2c'
- Inter-frequency cells	
- Frequency Info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
(-1 )	uplink frequency for cell 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 5
<ul> <li>Non frequency related measurement event</li> </ul>	
results	
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 5

# MEASUREMENT CONTROL (Step 11)

Measurement Identity       14         Measurement Command       Modify         Measurement Reporting Mode       Acknowledged Mode RLC         - Measurement Reporting / Event Trigger Reporting       Event Trigger
Measurement Command       Modify         Measurement Reporting Mode       Acknowledged Mode RLC         - Measurement Reporting / Event Trigger Reporting       Event Trigger
Measurement Reporting Mode       -         - Measurement Reporting Transfer Mode       Acknowledged Mode RLC         - Periodic Reporting / Event Trigger Reporting       Event Trigger
- Measurement Reporting Transfer Mode     - Periodic Reporting / Event Trigger Reporting     Event Trigger
- Periodic Reporting / Event Trigger Reporting Event Trigger
Mode
Additional measurements list Not Present
CHOICE measurement type Inter-frequency measurement
- Inter-frequency cell info list
- CHOICE inter-frequency cell removal No inter-frequency cells removed
- New inter-frequency info list
- Inter-frequency cell id Set to id of cell-5
- Frequency info
- UARFCN uplink (Nu) UARFCN of the uplink frequency for cell 5
- UARFCN downlink (Nd) UARFCN of the downlink frequency for cell 5
- Cell info
- Cell individual offset 0 dB
- Reference time difference to cell 0 chips
- Read SFN Indicator FALSE
- CHOICE Mode FDD
- Primary CPICH Info
- Primary Scrambling Code Set to same code as used for cell 5
- Primary CPICH TX power Not Present
- TX Diversity Indicator FALSE
- Cells for measurement
- Inter-frequency cell id Set to id of cell 5
- Inter-frequency measurement quantity
- Choice reporting chiena internet inte
Nonsurgement quantity for frequency quality
astimate
- Inter-frequency reporting quantity
- LITRA Carrier RSSI
- Frequency quality estimate
- Non frequency related cell reporting quantities
- SFN-SFN observed time difference reporting No report
indicator
- Cell synchronisation information reporting FALSE
indicator
- Cell Identity reporting indicator TRUE
- CPICH Ec/No reporting indicator FALSE
- CPICH RSCP reporting indicator TRUE
- Pathloss reporting indicator FALSE
- Reporting cell status
- CHOICE reported cell Report cells within active and/or monitored set
on used frequency or within active and/or
Maximum number of reported calls
- iviaximum number of reported cells 2
- ivieasurement validity INOT Present
- Inter-nequency set update Not Present CHOICE report criteria
- Amount of reporting
- Reporting interval 2000 milliseconds
DPCH compressed mode status info

## MEASUREMENT REPORT (Step 12, 16)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 5
- UTRA carrier RSSI	Check to see if it is absent
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 5
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
<ul> <li>CFN-SFN observed time difference</li> </ul>	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

## PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message transmitted in step 8 with the following modifications:

Information Element	Value/Remarks
Downlink information common for all radio links - DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- TGCFN	Not Present
<ul> <li>Transmission gap pattern sequence configuration parameters</li> </ul>	Not Present

## MEASUREMENT CONTROL (Step 15)

I

Information Element	Value/Remark
Measurement Identity	Any number except 14
Measurement Command	Modify
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Not Present
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

## 8.4.1.8.5 Test Requirement

After step 2 the UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH of cell 1.

After step 9 the UE shall transmit a MEASUREMENT REPORT message, containing the <u>IE</u> "measured results" for reporting cell 5's CPICH RSCP value. The UE shall also report the triggering of event '2c' by including IE "Event

results" in the MEASUREMENT REPORT message. The UE shall not transmit any MEASUREMENT REPORT messages pertaining to cell 4's measurements.

After step 11 the UE shall send MEASUREMENT REPORT messages, which comprises containing cell 5's CPICH RSCP measured value in IE "Measured results" at 2 seconds interval. The "Event results" IE shall be omitted in these messages.

After step 14 the UE shall not transmit any MEASUREMENT REPORT messages.

After step 15 the UE shall resume the transmission of MEASUREMENT REPORT messages with identical contents as in those received after step 911.

# 8.4.1.9 Measurement Control and Report: Unsupported measurement in the UE

8.4.1.9.1 Definition

## 8.4.1.9.2 Conformance requirement

If the UTRAN <u>indicates instructs</u> the UE to perform a measurement that is not supported <u>in by</u> the UE, the UE shall keep the measurement configuration that was valid before the MEASUREMENT CONTROL message was received. Then the UE shall transmit a MEASUREMENT CONTROL FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.4.1.4

## 8.4.1.9.3 Test purpose

To confirm that the UE transmits a MEASUREMENT CONTROL FAILURE message, with the value "unsupported measurement" specified in IE "failure cause" when the SS commanded instructs the UE to perform an unsupported measurement by sending a MEASUREMENT CONTROL message. To confirm that the UE retains its existing valid measurement configuration, after receiving a MEASUREMENT CONTROL message containing an unsupported measurement.

8.4.1.9.4 Method of test

Initial Condition

System Simulator: 1cell

UE: CS-DCCH<u>+DTCH</u>DCH (State 6-<u>9</u>5) or PS-DCCH<u>+DTCH</u>DCH (State 6-<u>10</u>7) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

[Editor's note: It is assumed in this test that the UE under test does not possess any inter-RAT measurement capability. The mandatory type(s) of measurement capability that shall be implemented by the UE is to be discussed]

#### Test Procedure

The UE is in the CELL_DCH state. SS sends MEASUREMENT CONTROL message to command the UE to perform internal measurement and reporting for UE transmitted power. The UE shall transmit MEASUREMENT REPORT messages on DCCH at 1 second interval. The SS transmits a MEASUREMENT CONTROL message which includes parameters that requests forto configure inter-RAT measurements. As Tthe UE under test does not support inter RAT measurement, it shall transmit a MEASUREMENT CONTROL FAILURE message on the uplink DCCH using AM RLC. SS verifies that the UE does not stop continues to transmit MEASUREMENT REPORT messages on uplink DCCH.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE is in the CELL_DCH state.
2	÷	MEASUREMENT CONTROL	UE internal measurement and reporting is requested.
3	$\rightarrow$	MEASUREMENT REPORT	Contains estimated reading for UE transmitted power.
4	÷	MEASUREMENT CONTROL	Inter-RAT measurements are requested in this message
5	$\rightarrow$	MEASUREMENT CONTROL FAILURE	Which is set to The value "unsupported measurement" is set in IE "failure cause".
6	$\rightarrow$	MEASUREMENT REPORT	SS verifies that UE continue to send this message on uplink DCCH.

# Specific Message Content

# MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	Not Present
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
<ul> <li>UE internal measurement quantity</li> </ul>	
- CHOICE mode	FDD
<ul> <li>Measurement quantity</li> </ul>	UE Transmitted Power
- Filter Coefficient	0
<ul> <li>UE internal reporting quantity</li> </ul>	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
<ul> <li>UE Rx-Tx time difference</li> </ul>	FALSE
<ul> <li>CHOICE report criteria</li> </ul>	Periodical reporting criteria
<ul> <li>Amount of reporting</li> </ul>	Infinity
- Reporting interval	1000 msec
DPCH compressed mode status	Not Present

# MEASUREMENT REPORT (Step 3 and Step 6)

Information Element	Value/Remark
Measurement Identity number	Check to see if it's set to '1'
Measured Results	
- CHOICE measurement	Check to see if it's set to "UE internal
	measured results"
- CHOICE mode	Check to see if it's set to "FDD"
- UE Transmitted Power	Check to see if the reported power is
	compatible with RF class
<ul> <li>UE Rx-Tx report entries</li> </ul>	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Additional Measured results	Check to see if it is absent
Event results	Check to see if it is absent

## MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
RRC transaction identifier	Select an arbitrary an integer between 0 and 3
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-RAT measurement
- Inter-RAT cell info list	
<ul> <li>CHOICE inter-RAT cell removal</li> </ul>	Remove no inter-RAT cells
- New inter-RAT cells	
- Inter-RAT cell id	1
- CHOICE Radio Access Technology	GSM
- Cell individual offset	0
<ul> <li>Cell selection and re-selection info</li> </ul>	Not Present
- BSIC	Set to the BSIC code of cell 2
- BSIC ARFCN	Set to the ARFCN assigned to cell 2
- Output power	Not Present
- Cell <u>s</u> for measurement	
- Inter-RAT cell id	Set to id of cell-2
- Inter-RAT measurement quantity	
- CHOICE system	GSM
- Measurement quantity	GSM Carrier RSSI
- Filter Coefficient	0
- BSIC verification required	Not required
- Inter-RAT reporting quantity	541.05
- UTRAN estimate quantity	FALSE
- CHOICE system	GSM
- Pathloss	FALSE
- Observed time difference to GSM cell	FALSE
- GOW Carrier KOOI	I KUE Nat Present
- Reporting cell status	Not Present
- UNULE report criteria	Not Present
DPCH compressed mode status info	Not Present

## MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remarks
RRC transaction identifier	Check if it is set to the same value of the same
	IE in the MEASUREMENT CONTROL
	message sent in Step 4.
Failure cause	Check if it is set to "Unsupported
	measurement"

## 8.4.1.9.5 Test requirement

After step 2 the UE shall transmit a MEASUREMENT REPORT messages at 1 second interval. In these messages, the IE "CHOICE measurement" shall be set to "UE internal measured results", and it shall contain the measured UL transmitted power reading in IE "UE Transmitted Power".

After step 4 the UE shall identify the unsupported measurement element in the MEASUREMENT CONTROL message and transmit a MEASUREMENT CONTROL FAILURE message. In this message, the value "unsupported measurement" shall be specified in IE "failure cause".

After step 5 the UE shall continue to transmit MEASUREMENT REPORT messages on the uplink DCCH, with the contents of the messages identical to that received by SS after step 2. to report an estimation of its transmission power.

# 8.4.1.10 Measurement Control and Report: Failure (Invalid Message Reception)

## 8.4.1.10.1 Definition

## 8.4.1.10.2 Conformance requirement

When the UE received an invalid MEASUREMENT CONTROL message it shall reply with a MEASUREMENT CONTROL FAILURE message stating the appropriate protocol error information. It shall maintain the <u>continue its</u> ongoing <u>processes and procedures monitoring and measurement reporting mechanism as if in before the</u> MEASUREMENT CONTROL message has <u>not</u> been received.

Reference

3GPP TS 25.331 clauses 8.4.1.5 and 9.25

#### 8.4.1.10.3 Test Purpose

To confirm that the UE does not change its current monitoring and measurement settingscontinues its ongoing processes and procedures after it has received an illegal-invalid MEASUREMENT CONTROL message. To confirm that the UE continue to perform its ongoing measurement reporting operations after transmitsting MEASUREMENT CONTROL FAILURE message to the SS, after it has received an invalid MEASUREMENT CONTROL message.

8.4.1.10.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: CS-DCCH<u>+DTCH</u>_DCH (State 6-95) or PS-DCCH<u>+DTCH</u>_DCH (State 6-107) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

#### Test Procedure

The UE is initially brought to CELL_DCH. SS transmits a MEASUREMENT CONTROL message to the UE, commanding it to start transmitting report messages for the reporting quantity "UE Transmitted Power". SS waits for the <u>UE to transmit MEASUREMENT REPORT message on the uplink DCCH</u> with the allocated measurement identity to arrive. After the MEASUREMENT REPORT message is received, SS transmits an invalid MEASUREMENT CONTROL message again. When tThe UE receives this message, it shall reply with MEASURMENT CONTROL FAILURE message as it has detected a protocol error. It shall not cease continue to report its own-UL transmission power level using MEASUREMENT REPORT messages.

#### Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
2 ←		<u>.</u>	MEASUREMENT CONTROL	SS transmits this message on downlink DCCH to instruct UE to start reporting the quantity "UE transmitted power".
3	3 →		MEASUREMENT REPORT	UE shall send this message periodically at 32 seconds interval
4	÷		MEASURMENT CONTROL	See message content.

Step	Direction	Message	Comment
	UE SS		
5	<i>→</i>	MEASUREMENT CONTROL FAILURE	UE shall maintain-continue its current measurement and reporting contexts processes and procedures after sending this message.
6	$\rightarrow$	MEASUREMENT REPORT	UE shall continue to transmit this message to the SS at 32 seconds interval.

# Specific Message Content

# MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
<ul> <li>UE internal measurement quantity</li> </ul>	
<ul> <li>Measurement quantity</li> </ul>	UE Transmitted Power
- Filter coefficient	0
<ul> <li>UE internal reporting quantity</li> </ul>	
- UE Transmitted Power	TRUE
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	Periodical reporting criteria
<ul> <li>Amount of reporting</li> </ul>	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT (Step 3 and Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
CHOICE measurement	Check to see if set to "UE internal measurement results"
- CHOICE mode	Check to see if it's set to "FDD"
- UE Transmitted Power	Check to see if the reported power is compatible with RF class
- UE Rx-Tx report entries	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional Measured results	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

## MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark	
All IEs	Not Present	
RRC transaction identifier	Selects an arbitrary integer between 0 and 3	
Measurement Identity	3	
Measurement Command	Setup	
Measurement Reporting Mode	Not Present	
Additional measurements list	Not Present	
CHOICE measurement type	Not Present	
DPCH compressed mode status info	Not Present	

## MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same
	message sent in Step 4.
Failure cause	Check to see if set to "protocol error"
Protocol error information	Check to see if set to "Conditional information
	element errorASN.1 violation or encoding
	error"

#### 8.4.1.10.5 Test Requirement

After step 4 the UE shall transmit MEASUREMENT CONTROL FAILURE message, stating the IE "failure cause" as "protocol error" and IE "protocol error information" as "conditional information element error<u>ASN.1 violation or</u> encoding error".

After step 5 the UE shall continue to send MEASUREMENT REPORT, with the measurement identity number set to 3 and <u>"measured ment</u> results" <u>IE for containing measured readings of UE Tx power</u>, at <u>approximately</u> 32 seconds interval.

# 8.4.1.11 Measurement Control and Report: Compressed Mode Configuration Failure during radio bearer reconfiguration procedure

8.4.1.11.1 Definition

#### 8.4.1.11.2 Conformance requirement

During a radio bearer reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any interfrequency <u>inter-RAT</u> measurements corresponding to the deleted transmission gap pattern sequence. <u>Finally, tT</u>he UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in-IE "failure cause" set to "compressed mode runtime error".

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11.2, clause 8.6.6.15

#### 8.4.1.11.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if it receives a RADIO BEARER RECONFIGURATION message which includes IE "DPCH compressed mode info" that causes an illegal overlap involving more than one parallel transmission gap pattern

sequences. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence.

### 8.4.1.11.4 Method of test

#### Initial Condition

System Simulator: 2 cells – both cCell 1 and cell 4 are active. See Table 8.4.1.11 1 for the power settings.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

#### Test Procedure

Table 8.4.1.11-1 illustrates the downlink power to be applied for the 2 cells in this test case.

Parameter	Unit	Cell 1	Cell 4
UTRA RF		Ch. 1	Ch. 2
Channel Number			
CPICH <u>Ec<mark>RSCP</mark></u>		- <mark>74</mark> 60	- <del>78<u>70</u></del>
	dBm <mark>/</mark>		
	3.84		
	MHz		

Table 8.4.1.11-1

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report-cell 4's measurement results the RSSI value of UTRA carrier in which cell 4 resides. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of <u>"GSM carrier RSSI"cell 4's CPICH RSCP value</u> on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a RADIO BEARER RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE " failure cause" shall be set to "compressed mode runtime error". The UE shall terminate all <u>inter-RAT inter frequency</u>-measurement tasks associated with TGPSI=2. However, tThe UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.

Expected sequence
Step	Direction		Message	Comment	
-	UE	SS			
1				UE is initially in CELL_DCH state.	
2		÷	MEASUREMENT CONTROL	SS_Sstarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. <u>SS commands UE to</u> <u>R</u> report the UTRA RSSI in the UARFCN in which cell 4 resides.	
3		<b>→</b>	MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.	
4		←	MEASUREMENT CONTROL	SS Aassigns inter-RAT inter- frequency-measurements for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".	
5		÷	RADIO BEARER RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously	
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.	
7		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	<u>IE "</u> Failure cause" shall be set to "Compressed mode runtime error"	
8		$\rightarrow$	MEASUREMENT REPORT	The contents shall be the same as that in step 3.	

1

# MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
<ul> <li>Inter-frequency cell info list</li> </ul>	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
	UARFCN of the uplink frequency for cell 4
- UARFON downlink (Nd)	UARFCN of the downlink frequency for cell 4
- Cell Info	
- Cell Individual onset	
- Reference time difference to cell Read SEN Indicator	
- Read SFN Indicator	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	Set to id of cell 4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality	CPICH Ec/No
estimate	
<ul> <li>Inter-frequency reporting quantity</li> </ul>	
- UTRA Carrier RSSI	TRUE
<ul> <li>Frequency quality estimate</li> </ul>	TRUE <u>FALSE</u>
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- CPICH EC/No reporting indicator	
- OPION ROOP reporting indicator	
- Fallinoss reporting indicator	FALSE
- Reporting cell status	Pepart cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
- Maximum number of reported cells	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS Status Flag	Active
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

# MEASUREMENT REPORT (Step 3 and <u>Step 8)</u>

Information Element	Value/Remarks
Measurement identity	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

# MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Periodical reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- Inter-RAT cell ld	
CHOISE Radio Access Technology	GSM
- Cell individual offset	
	Perca
- Band indicator	DCS 1800 band used
- BCCH ARECN	1
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality	Not present
estimate	
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	<u>0</u>
<ul> <li>BSIC verification required</li> </ul>	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM	FALSE
<u>CEM corrier DSSL reporting indicator</u>	
- Benorting cell status	
CHOISE reported cell	
- Reported cells within active set or within	
virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOISE report criteria	
- Periodical reporting criteria	
<ul> <li>Amount of reporting</li> </ul>	infinity
- Reporting interval	<u>1000</u>
Physical channel information elements	
- DPCH compressed mode status into	(Current CEN + (256 TTI/40maca))mod 256
- TGFS Teconinguration CFN	$\frac{[Current CFN + (250 - 11)/10msec]}{[mod 256]}$
- TGPSI	2
- TGPS status flag	
- TGCFN	Not present

# MEASUREMENT CONTROL (Step 4)

Information Element		Value/Remark	

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
Massurement Reporting Transfer Mode	Acknowledged Mode RLC
Deriodic Reporting / Event Trigger Reporting	Pariadical Paparting
Раноць Каронну / Ехант тудаг Каронну	<del>гэношсаг көрөннү</del>
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
	No inter frequency colla removed
- New Inter-frequency Into list	
<ul> <li>Inter-frequency cell-id</li> </ul>	Set to id of cell 4
- Frequency info	
- LIARECN unlink (Nu)	HARECN of the unlink frequency for cell 4
- LIARECN downlink (Nd)	LIARECN of the downlink frequency for cell 4
	of the of the downlink hequerity for contra
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	EDD
Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
Inter frequency coll id	
<ul> <li>Inter-frequency measurement quantity</li> </ul>	Set to id of cell 4
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	θ
<ul> <li>Measurement quantity for frequency quality</li> </ul>	CPICH RSCP
estimate	
between the second second section and second	
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
Frequency quality estimate	TRUE <u>FALSE</u>
<ul> <li>Non frequency related cell reporting quantities</li> </ul>	
- SEN-SEN observed time difference reporting	No report
indicator	
Only an abase is a time information and action	
- Cell synchronisation information reporting	FALSE
indicator	
Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
CPICH RSCP reporting indicator	TDHE
Dathloss reporting indicator	
Pathioss reporting indicator	FALSE
- Reporting cell status	
	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
- Maximum number of reported cells	2
Maximum number of reported cone	
- weasurement validity	<del>not present</del>
<ul> <li>Inter-frequency set update</li> </ul>	Not present
- CHOICE report criteria	Periodic reporting criteria
<ul> <li>Amount of reporting</li> </ul>	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
TODO CONTRACTOR CONTRACTOR	
- IGPS recontiguration CEN	(Current CFN+(256 - TH/10msec)) mod 256
<ul> <li>Transmission gap pattern sequence</li> </ul>	
	2
- TGPS Status Flag	Inactive
TGCEN	Not Present

## RADIO BEARER RECONFIGURATION (Step 5)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
<ul> <li>DPCH compressed mode info</li> </ul>	
- TGPSI	2
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
<ul> <li>Transmission gap pattern sequence configuration parameters</li> </ul>	
- TGMP	GSM Carrier RSSI Measurement FDD Measurement
- TGPRC	62
- TGSN	8 <u>4</u>
- TGL1	<u> 107</u>
- TGL2	5
- TGD	<u>150</u>
- TGPL1	- <del>35<u>3</u></del>
- TGPL2	<mark>-3</mark> 5
- RPP	Mode <mark>10</mark>
- ITP	Mode 4 <u>0</u>
- CHOICE UL/DL Mode	UL and DL
<ul> <li>Downlink compressed mode method</li> </ul>	SF/2
<ul> <li>Uplink compressed mode method</li> </ul>	<u>SF/2</u>
<ul> <li>Downlink frame type</li> </ul>	AB
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
Failure cause	Checked to see if set to "compressed mode runtime
	error"
<ul> <li>Protocol error information</li> </ul>	Checked to see if it is absent
- Deleted TGPSI	Checked to see if it is set to "2"

## 8.4.1.11.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the <u>inter-RAT inter-frequency</u> measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE "Failure cause" set to "Compressed mode runtime error".

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the UTRA RSSI value for the UARFCN in which cell 4 resides. However, no The MEASUREMENT REPORT messages sent by the UE shall not containing the CPICH RSCP readings for cell 4 shall be sent by the UE.

# 8.4.1.12 Measurement Control and Report: Compressed Mode Configuration Failure during transport channel reconfiguration procedure

8.4.1.12.1 Definition

## 8.4.1.12.2 Conformance requirement

During a transport channel reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any inter-frequency / inter-RAT measurements corresponding to the deleted transmission gap pattern sequence. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in IE "failure cause" set to "compressed mode runtime error".

#### Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11.2, clause 8.6.6.15

#### 8.4.1.12.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if it receives a TRANSPORT CHANNEL RECONFIGURATION message which includes IE "DPCH compressed mode info" that causes an illegal overlap involving more than one parallel transmission gap pattern sequences. To confirm that the UE terminate any inter frequency measurements corresponding to the deleted transmission gap pattern sequence.

#### 8.4.1.12.4 Method of test

**Initial Condition** 

System Simulator: 2 cells – both c<u>C</u>ell 1 and cell 4 are active. See Table 8.4.1.11 1 in clause 8.4.1.11.4 for the power settings.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

#### Test Procedure

For this test case, the downlink transmission power settings shall follow that specified in Table 8.4.1.11-1 in clause 8.4.1.11.4.

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, t the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 4's measurement results, the RSSI value of UTRA carrier in which cell 4 resides. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of "GSM carrier RSSI" cell 4's CPICH RSCP value on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL

RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE " failure cause" shall be set to "compressed mode runtime error". The UE shall terminate all <u>inter-RAT inter frequency</u> measurement tasks associated with TGPSI=2. <u>However, t</u>The UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides<del>, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.</del>

# Expected sequence

	Step	Direction		Message	Comment
		UE	SS		
	1				UE is initially in CELL_DCH
					state.
	2	+		MEASUREMENT CONTROL	SS Setarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. Report the UTRA RSSI in the UARFCN in which
	3		<i>&gt;</i>	MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
	4		÷	MEASUREMENT CONTROL	SS Aassigns inter-RAT inter- frequency measurements for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".
1	5	•	÷	TRANSPORT CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously
-	6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
	7	•	<i>&gt;</i>	PHYSICAL CHANNEL RECONFIGURATION FAILURE	<u>IE "</u> Failure cause" shall be set to "Compressed mode runtime error"
	8		→ <u> </u>	MEASUREMENT REPORT	The contents shall be the same as that in step 3.

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1

# MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
<ul> <li>Inter-frequency cell info list</li> </ul>	
<ul> <li>CHOICE inter-frequency cell removal</li> </ul>	No inter-frequency cells removed
<ul> <li>New inter-frequency info list</li> </ul>	
<ul> <li>Inter-frequency cell id</li> </ul>	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 4
- Cell info	<b>-</b>
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Into	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- IX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell la	$\frac{4}{2}$
- Inter-frequency measurement quantity	Set to to of cell 4
- CHOICE reporting criteria	
- Filler Coefficient	
- Measurement quantity for frequency quality	CFICITEC/NO
- Inter-frequency reporting quantity	
- LITRA Carrier RSSI	TRUE
- Frequency quality estimate	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell Identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting cell status	
- CHOICE reported cell	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
<ul> <li>Maximum number of reported cells</li> </ul>	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- IGPS recontiguration CFN	(Current CFN+(256 – ITI/10msec)) mod 256
- I ransmission gap pattern sequence	4
	1 A stirre
- IGPS STATUS FIAG	ACTIVE
	(Current CFIN+(256 – 111/10msec)) mod 256

# MEASUREMENT REPORT (Step 3 and <u>Step 8)</u>

Information Element	Value/Remarks
Measurement identity	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

# MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Periodical reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
<ul> <li>inter-RAT measurement object list</li> </ul>	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	7
CHOISE Radio Access Technology	GSM
- Cell Individual offset	
- Cell selection and re-selection into	Not present
- BSIC	BSIC1
	DCS 1800 band used
- BUCH ARFUN	L Not procent
- Cell for measurement quentity	
- Measurement quantity for LITRAN quality	Not present
estimate	<u>Not present</u>
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
<ul> <li>Observed time difference to to GSM</li> </ul>	FALSE
cell reporting indicator	
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
CHOISE reported cell	
<ul> <li>Reported cells within active set or within</li> </ul>	
virtual active set or of the other RAT	
- Maximum number of reported cells	<u>6</u>
CHOISE report criteria	
- Periodical reporting criteria	
- Amount of reporting	
- Reporting Interval	1000
Physical channel information elements	
- TCPS reconfiguration CEN	(Current CEN + (256 - TTI/(10mcoc))) mod 256
- TOFS reconniguration of the	1000000000000000000000000000000000000
- TGPSI	2
- TGPS status flag	= inactive
- TGCFN	Not present
	notprotont

# MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARECN unlink (Nu)	HARECN of the uplink frequency for cell 4
- LIARECN downlink (Nd)	UARECN of the downlink frequency for cell 4
- Cell info	
- Coll individual offset	0 dB
- Reference time difference to cell	0 chips
- Road SEN Indicator	
- CHOICE Mode	EDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell A
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	EALSE
- Cells for measurement	
- Inter-frequency cell id	Set to id of cell 4
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	θ
- Measurement quantity for frequency quality	CPICH RSCP
estimate	
<ul> <li>Inter-frequency reporting quantity</li> </ul>	
- UTRA Carrier RSSI	FALSE
Frequency quality estimate	TRUE <u>FALSE</u>
<ul> <li>Non frequency related cell reporting quantities</li> </ul>	
<ul> <li>SEN-SEN observed time difference reporting</li> </ul>	No report
indicator	
- Cell synchronisation information reporting	FALSE
Indicator On II I deputite generations in disector	
CPICH EC/NO reporting indicator	
- ratnices reporting indicator	
- Reporting cell status	
	Report cells within active and/or monitored set
	monitored act on pan used frequency
- Maximum number of reported colle	2
- Measurement validity	
- Inter-frequency set undate	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
	(Current CEN+(256 - TTI/10msec)) mod 256
- Transmission gap pattern sequence	
	2
- TGPS Status Flag	Inactive
	Not Present

# TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration	
parameters	
- TGMP	GSM Carrier RSSI Measurement FDD Measurement
- TGPRC	62
- TGSN	<u>4</u> 8
- TGL1	<u>7</u> <del>10</del>
- TGL2	<u>5</u> 5
- TGD	<u>0</u> <del>15</del>
- TGPL1	<u>3</u> <del>35</del>
- TGPL2	<u>5</u> 35
- RPP	Mode 0 Mode 1
- ITP	Mode 0 Mode 1
- CHOICE UL/DL Mode	<u>UL and </u> DL
<ul> <li>Downlink compressed mode method</li> </ul>	SF/2
<ul> <li>Uplink compressed mode method</li> </ul>	<u>SF/2</u>
- Downlink frame type	A <u>B</u>
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
Failure cause	Checked to see if set to "compressed mode runtime error"
<ul> <li>Protocol error information</li> <li>Deleted TGPSI</li> </ul>	Checked to see if it is absent Checked to see if it is set to "2"

## 8.4.1.12.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the <u>inter-RAT inter-frequency</u> measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE "Failure cause" set to "Compressed mode runtime error".

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the UTRA RSSI value for the UARFCN in which cell 4 resides. However, no The MEASUREMENT REPORT messages sent by the UE shall not containing the CPICH RSCP readings for cell 4 shall be sent by the UE.

# 8.4.1.13 Measurement Control and Report: Compressed Mode Configuration Failure during physical channel reconfiguration procedure

8.4.1.13.1 Definition

# 8.4.1.13.2 Conformance requirement

During a physical channel reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any inter-frequency / inter-RAT measurements corresponding to the deleted transmission gap pattern sequence. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in IE "failure cause" set to "compressed mode runtime error".

#### Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11.2, clause 8.6.6.14

#### 8.4.1.13.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if it receives a PHYSICAL CHANNEL RECONFIGURATION message which includes IE "DPCH compressed mode info" that causes an illegal overlap involving more than one parallel transmission gap pattern sequences. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence

#### 8.4.1.13.4 Method of test

**Initial Condition** 

System Simulator: 2 cells – both c<u>C</u>ell 1 and cell 4 are active. See Table 8.4.1.11 1 in clause 8.4.1.11.4 for the power settings.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

#### Test Procedure

For this test case, the downlink transmission power settings shall follow that specified in Table 8.4.1.11-1 in clause 8.4.1.11.4.

The UE is in the CELL_DCH state in cell 1. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 4's CPICH Ec/No value, and also to report the UTRA RSSI in the UARFCN in which cell 4 resides. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, t the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report-cell 4's measurement results the RSSI value of UTRA carrier in which cell 4 resides. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of <u>"GSM carrier RSSI"cell 4's CPICH RSCP value</u> on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL

RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE " failure cause" shall be set to "compressed mode runtime error". The UE shall terminate all <u>inter-RAT inter frequency</u> measurement tasks associated with TGPSI=2. <u>However, tThe UE shall continue to send MEASUREMENT REPORT</u> messages to report the UTRA RSSI in the UARFCN in which cell 4 resides<del>, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1</del>.

# Expected sequence

Step	Direction		on	Message	Comment
	UE		SS		
1					UE is initially in CELL_DCH
					state.
2		÷		MEASUREMENT CONTROL	<u>SS</u> Satarts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. <u>SS commands UE to</u> <u>R</u> report the UTRA RSSI in the UARFCN in which cell 4 resides.
3		$\rightarrow$		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4		÷		MEASUREMENT CONTROL	SS Aassigns inter-frequency measurements for for "GSM carrier RSSI"cell 4's CPICH RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet. The IE "TGPS status flag" is set to "Inactive".
5		÷		PHYSICAL CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activates it simultaneously
6					UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7		→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	<u>IE "</u> Failure cause <u>"</u> shall be set to "Compressed mode runtime error"
8 →			MEASUREMENT REPORT	The contents shall be the same as that in step 3.	

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# MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark	
Measurement Identity	1	
Measurement Command	Setup	
Measurement Reporting Mode		
- Measurement Reporting Transfer Mode	Acknowledged Mode RI C	
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting	
Mode	r chodical Reporting	
Additional measurements list	Not Present	
	Inter-frequency measurement	
- Inter-frequency cell info list		
- CHOICE inter-frequency cell removal	No inter-frequency cells removed	
- New inter-frequency info list		
- Inter-frequency cell id	Set to id of cell 4	
- Frequency info		
	LIARECN of the unlink frequency for call 4	
	LIARECN of the downlink frequency for cell 4	
- UARFON dowinink (Nu)	OARFCN OF the downlink frequency for cell 4	
Coll individual offect	0 dB	
Potoronco timo difforonco to coll		
- Reference time difference to cell Bood SEN Indicator		
- Read SFN Indicator		
- CHOICE Mode	FDD	
- Filling OFICH IIIO	Set to some and an used for call 4	
- Primary Scrambling Code	Set to same code as used for cell 4	
TX Diversity Indicator		
- TX Diversity indicator	FALSE	
- Cells for measurement	Catta id af call 4	
- Inter-frequency cell la		
- Inter-frequency measurement quantity	later for every surrentian entity is	
- CHOICE reporting criteria		
- Filter Coemcient		
- Measurement quantity for frequency quality	CPICH EC/NO	
estimate		
- Inter-frequency reporting quantity	TRUE	
- UTRA Carrier RSSI		
- Frequency quality estimate	TRUEFALSE	
- Non frequency related cell reporting quantities	No report	
- SFN-SFN observed time difference reporting		
Coll current continuing information reporting	EALOE	
- Cell synchronisation information reporting	FALSE	
	EALOE	
- Cell Identity reporting indicator		
- CPICH EC/NO reporting indicator		
- CPICH RSCP reporting indicator		
- Pathioss reporting indicator	FALSE	
- Reporting cell status	Depart calls within active and/or manitared act	
	Report cells within active and/or monitored set	
	monitored act on non-used frequency	
Movimum number of reported calls	nonitored set on non-used frequency	
- maximum number or reported cells	∠ Not present	
- IviedSurement Valluity	Not present	
- Inter-nequency set update	Poriodia reporting aritoria	
- UNUCE report criteria	Fenould reporting chiefia	
- Amount of reporting	16 accordo	
- Reporting interval	To seconds	
- IGPS reconliguration CFN	$(Current CFN+(256 - 111/10msec)) \mod 256$	
- mansmission gap pattern sequence	1	
- IGPS Status Flag		
- IGUEN	(Current CFN+(256 – 111/10msec)) mod 256	

# MEASUREMENT REPORT (Step 3 and <u>Step 8)</u>

Information Element	Value/Remarks
Measurement identity	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
<ul> <li>Inter-frequency measurement results</li> </ul>	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the
	uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the
	downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is present
<ul> <li>Inter-frequency cell measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Measured Results on RACH	Check to see if it is absent
Event Results	Check to see if it is absent

# MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Periodical reporting
Mode	
Additional measurements list	Not Present
CHOICE measurement type	
<ul> <li>inter-RAT measurement</li> </ul>	
<ul> <li>inter-RAT measurement object list</li> </ul>	
CHOISE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	<u>7</u>
CHOISE Radio Access Technology	<u>GSM</u>
- Cell individual offset	0
<ul> <li>Cell selection and re-selection info</li> </ul>	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality	Not present
	COM
CHOISE system	
- Measurement quantity	Contractine Room
- Filler coefficient	
- DOIC Verification required	not required
	CSM
- Observed time difference to to GSM	
cell reporting indicator	
- GSM carrier RSSI reporting indicator	
- Reporting cell status	
CHOISE reported cell	
- Reported cells within active set or within	
virtual active set or of the other RAT	
- Maximum number of reported cells	6
CHOISE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
<ul> <li>TGPS reconfiguration CFN</li> </ul>	(Current CFN + (256 - TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
<ul> <li>TGPS status flag</li> </ul>	inactive
- TGCFN	Not present

# MEASUREMENT CONTROL (Step 4)

Information Element	t Value/Rem	<mark>ark</mark>

Measurement Identity	2
Measurement Command	Setup
Measurement Reporting Mode	
————————————————————————————————————	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting	Periodical Reporting
Mode	
Additional measurements list	Not Present
	Inter-frequency measurement
Inter frequency cell infe list	inter requerey measurement
	No inter frequency colls removed
Now inter frequency info list	
- INOW INTO THE QUEINCY INTO INST	
- Inter-frequency cell la	Set to id of cell 4
- Frequency into	
	UARECN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 4
- Cell individual offset	0-dB
Reference time difference to cell	<del>0 chips</del>
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	EALSE
Colle for measurement	
Inter-frequency cell la	
- Inter-frequency measurement quantity	Set to id of cell 4
- CHOICE reporting criteria	Inter-frequency reporting criteria
	<del>0</del>
- Measurement quantity for frequency quality	CPICH RSCP
estimate	
Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
<ul> <li>Frequency quality estimate</li> </ul>	TRUEFALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell Identity reporting indicator	
CDICH Ec/No reporting indicator	
CPICIT EC/NO reporting indicator	
- OPION ROOP ICPOILing Indicator	
- Fathioss reporting indicator	
- Reporting cell status	
	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored cells on non-used frequency
- Maximum number of reported cells	2
————————————————————————————————————	Not present
<ul> <li>Inter-frequency set update</li> </ul>	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
TCPS reconfiguration CEN	(Current CEN + (256 - TTI/10mcoc)) mod 256
Transmission gap pattern acquance	(Current OF 14 + (200 - 1 H/ 10111500)) 11100 200
торо	
- IGPS Status Flag	Inactive
	Not Present

## PHYSICAL CHANNEL RECONFIGURATION (Step 5)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
<ul> <li>DPCH compressed mode info</li> </ul>	
- TGPSI	2
- TGPS Status Flag	Active
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
<ul> <li>Transmission gap pattern sequence configuration parameters</li> </ul>	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	48
- TGL1	<u>7</u> <del>10</del>
- TGL2	<u>5</u> 5
- TGD	<u>0</u> <del>15</del>
- TGPL1	<u>3</u> 35
- TGPL2	<u>5</u> 35
- RPP	Mode 0 Mode 1
- ITP	Mode 0 Mode 1
- CHOICE UL/DL Mode	<u>UL and </u> DL
<ul> <li>Downlink compressed mode method</li> </ul>	SF/2
<ul> <li>Uplink compressed mode method</li> </ul>	<u>SF/2</u>
<ul> <li>Downlink frame type</li> </ul>	A <u>B</u>
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 7)

Information Element	Value/remark
Failure cause	Checked to see if set to "compressed mode runtime
	error"
<ul> <li>Protocol error information</li> </ul>	Checked to see if it is absent
- Deleted TGPSI	Checked to see if it is set to "2"

## 8.4.1.13.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the <u>inter-RAT inter-frequency</u> measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE "Failure cause" set to "Compressed mode runtime error".

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the UTRA RSSI value for the UARFCN in which cell 4 resides. <u>However, no_The</u> MEASUREMENT REPORT messages <u>sent by</u> the UE shall not containing the CPICH RSCP readings for cell 4 shall be sent by the UE.

# 8.4.1.14 Measurement Control and Report: Cell forbidden to affect reporting range

## 8.4.1.14.1 Definition

## 8.4.1.14.2 Conformance requirement

When event 1A is ordered by the UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message when a primary CPICH measured has entered the specified reporting range. The UTRAN can request that a certain primary CPICH be forbidden to affect the reporting range used for event 1A measurement reporting. However, the UE shall ignore such <u>a</u> request from the UTRAN if two conditions are <u>fulfilled</u><u>satisfied</u> – (a) the primary CPICH concerned is included in the active set, and (b) all cells in the active set are defined as primary CPICHs forbidden to affect the reporting range.

Reference

3GPP TS 25.331 clause 14.1.2.1, clause 14.1.5.4

#### 8.4.1.14.3 Test Purpose

To confirm that the UE reports the triggering of event 1A to the SS, if a primary CPICH currently measured by the UE enters the reporting range (event 1A). The reporting range was specified in a MEASUREMENT CONTROL message received earlier. To confirm that the UE ignores SS's request to that a primary CPICH is forbidden to affect the updating of reporting range, when (a) the primary CPICH concerned is one of the cells currently included in active set and (b) all cells in the active sets are marked defined as primary CPICHs forbidden to affect the reporting range.

#### 8.4.1.14.4 Method of test

#### **Initial Condition**

System Simulator: 3 cells –- <u>Cell 1, cell 2 and cell 3 are active</u> The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.14-1. The table is found in "Test Procedure" clause.

UE: CS-DCCH<u>+DTCH</u>DCH (State 6-95) or PS-DCCH<u>+DTCH</u>DCH (State 6-107) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

Table 8.4.1.14-1 illustrates the downlink power to be applied for the 3 cells at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1", "T2", and "T3" and "T4" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Para-	Unit			Cell 1					Cell 2					Cell 3		
meter																
		T0	T1	T2	T3	<del>T4</del>	T0	T1	T2	T3	<del>T4</del>	T0	T1	T2	T3	<del>T</del> 4
UTRA RF Channel Number				Ch. 1					Ch. 1					Ch. 1		
CPICH RSCPE ©	dBm <mark>/3.84</mark> MHz	- 70 <u>60</u>	<del>-</del> <del>70<u>60</u></del>	- 70 <u>85</u>	- 70 <u>60</u>	- <del>70</del>	- 76 <u>85</u>	- 7 <u>2</u> 6 <u>7</u> 0	- <del>7</del> 6 <u>0</u>	- 6 <u>768</u> 5	<del>-66</del>	Cell 3-is Swit ched 7270	- 72 <u>70</u>	- 7 <u>2</u> 8 <u>8</u> 5	- 7 <u>2</u> 8 <u>7</u> 0	- <del>72</del>

#### Table 8.4.1.14-1

The UE is initially in CELL_DCH state of cell 1. SS then performs an active set update procedure by sending ACTIVE SET UPDATE REQUEST message on the downlink DCCH. Cell 2 is to be added to the active set, according to the

content of this downlink message. The UE shall reply with an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH, and include cell 2 to the active set when the activation time specified has elapsed.

SS configures itself according to the values in columns "T1" shown above. SS then-sends a MEASUREMENT CONTROL message to the UE, commanding the start of with cell 1, cell 2 and cell 3 listed in IE "intra-frequency_cell info list" measurement for all 3 cells. In this message, Tthe IE "CHOICE reporting criteria" is set to "intra-frequency measurement report criteria", with the IE "intra-frequency event identity" is set to event triggered using event "1A". The IE "reporting range" is set to 5 dB in the MEASUREMENT CONTROL message. The UE shall send a MEASUREMENT REPORT on the uplink DCCH, which contains the IE "Event results" to report that intra-frequency event 1A is triggered by <u>CPICH RSCP reading for</u> cell 3.

SS executes the active set update procedure again, requesting that cell 3 be added to the active set this time. The UE shall respond with ACTIVE SET UPDATE COMPLETE message on the uplink DCCH and then includes cell 3 into its current active set. Following this, SS configures itself according to the values in columns "T12" shown above. The UE shall detect that CPICH RSCP of cell 3 has dropped out of the reporting range. The UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH to report the triggering of intra-frequency event 1A. In these messages, the IE "Events results" shall indicate that intra-frequency event 1A is triggered by cell 2. Upon reception of MEASUREMENT REPORT message, SS sends ACTIVE SET UPDATE message to request cell 2 to be added to the active set. The UE shall respond with ACTIVE SET UPDATE COMPLETE message on the uplink DCCH and then include cell 2 into its current active set.

Next, SS configures itself according to the values in columns "T3" shown above. SS then sends a MEASUREMENT CONTROL message to command that all cells in the active set are forbidden to update the reporting range for event 1A.

Finally, SS configures itself according to the values in columns "T24" shown above. The UE shall proceed to update the reporting range as cell 2 has become the strongest cell. Although the CPICH RSCP value of cell 3 has been restored, this value still falls outside the new reporting range. Therefore, tThe UE shall not transmit a MEASUREMENT REPORT message on the uplink to report the triggering of intra-frequency reporting event 1A. SS reconfigures itself according to the values in column "T3" shown in table 8.4.1.14-1 above. The UE shall transmit MEASUREMENT REPORT message to report triggering intra-frequency event identity 1A, and also to report the CPICH RSCP readings for cell 1, cell 2 and cell 3 in IE "Measured results"

Expected sequence

Step	Direction UE SS	Message	Comment
1			UE is initially in CELL_DCH state in cell 1.
2	+	ACTIVE SET UPDATEVoid	SS asks UE to add cell 2 into the active set
3	$\rightarrow$	ACTIVE SET UPDATE COMPLETEVoid	
4		Void	SS configures itself according to the settings stated in column "T1" of Table 8.4.1.14-1.
5	¥	MEASUREMENT CONTROL	SS commands the start of measurement tasks for CPICH RSCP of eCell 1, cell 2 and cell 3. All 3 cells are listed in added under-IE "Intra-frequency cell info list". The <u>IE "CHOICE</u> reporting criteria" is set to <u>"Intra- frequency measurement</u> reporting criteria" event-triggered using event type_and IE "Intra- frequency event identity" is set to "1A", with <u>IE</u> "reporting range" = <u>set to</u> 5 dB.
6	<i>→</i>	MEASUREMENT REPORT	UE shall report that cell 3 has entered the reporting range for intra-frequency reporting event 1A.
7	÷	ACTIVE SET UPDATE	SS asks-UE to shall add cell 3 into the active set
8	$\rightarrow$	ACTIVE SET UPDATE COMPLETE	
9			SS configures itself according to the settings stated in column "T12" of Table 8.4.1.14-1.
10	<u></u>	MEASUREMENT REPORT	SS configures itself according to the settings stated in column "T3" of Table 8.4.1.14-1.UE shall report that cell 2 has entered the reporting range for intra- frequency reporting event 1A.
<u>10a</u>	<u>←</u>	ACTIVE SET UPDATE	UE shall add cell 2 into the active set
<u>10b</u>	$\rightarrow$	ACTIVE SET UPDATE COMPLETE	
11	+	MEASUREMENT CONTROL	SS forbids all cells in active list to affect the reporting range
12			SS configures itself according to the settings stated in column "T24" of Table 8.4.1.14-1
13			UE shall ignore the restrictions imposed by the messages received in step 11. It shall update the reporting range. SS verifies that no MEASUREMENT REPORT messages are received in the uplink direction
<u>14</u>			SS configures itself according to the settings stated in column "T3" of Table 8.4.1.14-1.
<u>15</u>	≥	MEASUREMENT REPORT	UE shall report that cell 3 has entered the reporting range for intra-frequency reporting event 1A.

#### Specific Message Contents

# ACTIVE SET UPDATE (Step 2)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	θ
Radio link addition information	
Primary Scrambling Code	Set to same code as assigned for cell 2
— - Primary CPICH usage for channel estimation	P-CPICH can be used.
	<del>0 chips</del>
	Not Present
	This IE is repeated for all existing downlink
	DPCHs allocated to the UE
	Not Present
	<del>512</del>
	For each DPCH, assign the same code
	number in the current code given in cell 1.
<ul> <li>Scrambling code change</li> </ul>	Not Present
	θ
	Not Present
<ul> <li>Close loop timing adjustment mode</li> </ul>	Not Present
	Not Present
	Not Present
Radio link removal information	Not Present

#### ACTIVE SET UPDATE COMPLETE (Step 3 and Step 8)

Information Element	Value/remark
RRC transaction identifier	Check to see if it is set to 0

# MEASUREMENT CONTROL (Step 5)

The contents of MEASUREMENT CONTROL message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/Remark
RRC transaction identifier	1
Measurement Identity	1
Measurement Command	Setup
Measurement Reporting Mode	
<ul> <li>Measurement Reporting Transfer Mode</li> </ul>	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Event Trigger
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Initia-frequency cell fillo list	Romava na intra fraguanav
- CHOICE Intra-frequency info list	3 cells are specified – cell 1 cell 2 and cell 3
- Intra-frequency cell id	
- Cell info	°±
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
<ul> <li>Primary CPICH TX power</li> </ul>	Not Present
- TX Diversity Indicator	FALSE
- Intra-frequency cell id	4 <u>2</u>
- Cell info	
- Cell Individual offset	0 dB
- Reference time difference to cell Road SEN Indicator	EVISE
- CHOICE Mode	FALSE
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Intra-frequency cell id	<u>23</u>
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	FALSE
	FDD
- Primary CPICH III0 - Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell for measurement	
- Intra-frequency cell id	Set to ids of cell 1, cell 2 and cell 3
- Intra-frequency measurement quantity	,
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	NI- non-out
- SEN-SEN ODSERVED time difference reporting	ινο ιεροπ
Indicator	
- Cen synchronisation information reporting	FALOE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUEFALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell identity reporting indicator	
- UPICH EC/NO reporting indicator	
- UPIUM KOUP reporting indicator	
- Pathoss reporting indicator	RALOE Not present
	ווטנ אובפבוונ

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Information Element	Value/Remark
<ul> <li>Reporting cell status</li> </ul>	Not present
<ul> <li>Measurement validity</li> </ul>	Not present
<ul> <li>CHOICE report criteria</li> </ul>	Intra-frequency measurement reporting criteria
<ul> <li>Parameters required for each events</li> </ul>	Only 1 event is specified
<ul> <li>Intra-frequency event identity</li> </ul>	1a
<ul> <li>Triggering conditions 1</li> </ul>	Not Present
- Triggering conditions 2	Active set cells and monitored set cells
- Reporting range	<u>16</u> 5.0 dB
<ul> <li>Cells forbidden to affect reporting range</li> </ul>	Not Present
- W	0
- Hysteresis	0 dB
<ul> <li>Threshold used frequency</li> </ul>	Not Present
<ul> <li>Reporting deactivation threshold</li> </ul>	3
<ul> <li>Replacement activation threshold</li> </ul>	Not Present
- Time to trigger	0 msec
<ul> <li>Amount of reporting</li> </ul>	1
<ul> <li>Reporting interval</li> </ul>	0
<ul> <li>Reporting cell status</li> </ul>	Not Present
<ul> <li>CHOICE reported cells</li> </ul>	Report cells within monitored set on used
	frequency
<ul> <li>Maximum number of reported cells</li> </ul>	<u>e3</u>
DPCH compressed mode status info	Not Present

# MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
RRC transaction identifier	Check to see if set to 1
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency
	measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 3
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	Check to see if set to 'Intra-frequency
	measurement event results'
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if set to '1a'
<ul> <li>Cell measurement event results</li> </ul>	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3

# ACTIVE SET UPDATE (Step 7)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Radio link addition information	
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as assigned for cell 3
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	P-CPICH can be used.
- DPCH frame offset	0 chips
<ul> <li>Secondary CPICH info</li> </ul>	Not Present
<ul> <li>DL channelisation code</li> </ul>	This IE is repeated for all existing downlink
	DPCHs allocated to the UE
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
- Spreading factor	512
- Code Number	For each DPCH, assign the same code
	number in the current code given in cell 1.
<ul> <li>Scrambling code change</li> </ul>	Not Present
- TPC Combination Index	0
- SSDT Cell Identity	Not Present
<ul> <li>Close loop timing adjustment mode</li> </ul>	Not Present
<ul> <li>TFCI Combining Indicator</li> </ul>	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present
Radio link removal information	Not Present

# ACTIVE SET UPDATE COMPLETE (Step 8 and Step 10b)

Information Element	Value/remark
RRC transaction identifier	Check to see if it is set to 0

## MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
RRC transaction identifier	Check to see if set to 1
Measurement identity	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Intra-frequency
	measured results list"
<ul> <li>Intra-frequency measurement results</li> </ul>	
- Cell measured results	
- Cell Identity	Check to see if it is absent
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Measured Results on RACH	Check to see if this IE is absent
Additional Measured Results	Check to see if this IE is absent
Event Results	Check to see if set to 'Intra-frequency
	measurement event results'
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if set to '1a'
<ul> <li>Cell measurement event results</li> </ul>	
- CHOICE Mode	Check to see if set to 'FDD'
- Primary CPICH info	
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if set to the same code for cell 2

# ACTIVE SET UPDATE (Step 10a)

The contents of ACTIVE SET UPDATE message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	<u>0</u>
Radio link addition information	
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as assigned for cell 2
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	P-CPICH can be used.
- DPCH frame offset	<u>0 chips</u>
<ul> <li>Secondary CPICH info</li> </ul>	Not Present
<ul> <li>- DL channelisation code</li> </ul>	This IE is repeated for all existing downlink
	DPCHs allocated to the UE
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
<ul> <li>Spreading factor</li> </ul>	<u>512</u>
- Code Number	For each DPCH, assign the same code
	number in the current code given in cell 1.
<ul> <li>Scrambling code change</li> </ul>	Not Present
- TPC Combination Index	<u>0</u>
<ul> <li>SSDT Cell Identity</li> </ul>	Not Present
<ul> <li>Close loop timing adjustment mode</li> </ul>	Not Present
<ul> <li>TFCI Combining Indicator</li> </ul>	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present
Radio link removal information	Not Present

# MEASUREMENT CONTROL (Step 11)

I

The contents of MEASUREMENT CONTROL message for this test step is identical to the same message found in Annex A with the following exceptions:

Information Element	Value/Remark
RRC transaction identifier	1
Measurement Identity	1
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
<ul> <li>Periodic Reporting / Event Trigger Reporting</li> </ul>	Event Trigger
Mode	
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
<ul> <li>Intra-frequency cell info list</li> </ul>	Not Present
<ul> <li>Intra-frequency measurement quantity</li> </ul>	Not Present
<ul> <li>Intra-frequency reporting quantity</li> </ul>	Not Present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
<ul> <li>Parameters required for each events</li> </ul>	Only 1 event is specified
<ul> <li>Intra-frequency event identity</li> </ul>	1a
- Triggering conditions 1	Not Present
- Triggering conditions 2	Active set cells
- Reporting range	<u>16</u> 5.0 dB
<ul> <li>Cells forbidden to affect reporting range</li> </ul>	<del>3 cells – cell 1, cell 2 and cell 3</del>
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 1
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 2
	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the same code as in cell 3
- W	
- Theophold upod froquency	U UB Not Procent
- The should used hequency Reporting deactivation throshold	
- Reporting deactivation threshold	S Not Procent
Time to trigger	0 msoc
- Amount of reporting	
- Reporting interval	
- Reporting cell status	Not Present
	Report cells within active set
- Maximum number of reported cells	
DPCH compressed mode status info	Not Present
	Hot Hoodin

#### MEASUREMENT REPORT (Step 15)

Information Element	Value/Remarks	
RRC transaction identifier	Check to see if set to 1	
Measurement identity	Check to see if set to 1	
Measured Results		
- CHOICE measurement	Check to see if set to "Intra-frequency	
	measured results list"	
- Intra-frequency measurement results		
- Cell measured results		
- Cell Identity	Check to see if it is absent	
- SFN-SFN observed time difference	Check to see if this IE is absent	
- Cell synchronisation information	Check to see if this IE is absent	
- Primary CPICH Info		
- Primary Scrambling Code	Check to see if it's the same code for cell 1	
- CPICH Ec/No	Check to see if this IE is absent	
- CPICH RSCP	Check to see if this IE is present	
- Pathloss	Check to see if this IE is absent	
- Cell measured results		
- Cell Identity	Check to see if it is absent	
- SFN-SFN observed time difference	Check to see if this IE is absent	
- Cell synchronisation information	Check to see if this IE is absent	
- Primary CPICH Info		
- Primary Scrambling Code	Check to see if it's the same code for cell 3	
- CPICH Ec/No	Check to see if this IE is absent	
- CPICH RSCP	Check to see if this IE is present	
- Pathloss	Check to see if this IE is absent	
- Cell measured results		
- Cell Identity	Check to see if it is absent	
<ul> <li>SFN-SFN observed time difference</li> </ul>	Check to see if this IE is absent	
<ul> <li>Cell synchronisation information</li> </ul>	Check to see if this IE is absent	
- Primary CPICH Info		
<ul> <li>Primary Scrambling Code</li> </ul>	Check to see if it's the same code for cell 2	
- CPICH Ec/No	Check to see if this IE is absent	
- CPICH RSCP	Check to see if this IE is present	
- Pathloss	Check to see if this IE is absent	
Measured Results on RACH	Check to see if this IE is absent	
Additional Measured Results	Check to see if this IE is absent	
Event Results	Check to see if set to 'Intra-frequency	
	measurement event results'	
<ul> <li>Intra-frequency event identity</li> </ul>	Check to see if set to '1a'	
<ul> <li>Cell measurement event results</li> </ul>		
- CHOICE Mode	Check to see if set to 'FDD'	
- Primary CPICH info		
- Primary Scrambling Code	Check to see if set to the same code for cell 3	

## 8.4.1.14.5 Test requirement

After step 2, the UE shall transmit ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to acknowledge the successful addition of cell 2 into the active set. The UE shall be able to communicate with cell 2 in both the uplink and downlink directions after this step.

After step 5, the UE shall send a MEASUREMENT REPORT message on the uplink DCCH. The message shall contain the <u>IE "Event results" measurement reading for to report that cell</u> 3's <u>CPICH RSCP has triggered intra-frequency event</u> <u>1A</u>.

After step 7, the UE shall transmit ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to acknowledge the successful addition of cell 3 into the active set. The UE shall be able to communicate with cell 3 in both the uplink and downlink directions after this step. After step 9, the UE shall transmit MEASUREMENT REPORT message on the uplink DCCH. The message shall contain IE "Event results" to report tha cell 2 has triggered intra-frequency event 1A

After step 12, the UE shall ignore the previous restriction imposed for the updating of reporting range. It shall determine that cell 3's RSCP value is not within the updated reporting range. SS verifies that the UE does shall not send a MEASUREMENT REPORT message on the uplink DCCH to report the triggering of intra-frequency event identity 1A. cell 3's RSCP value.

After step 14, the UE shall send a MEASUREMENT REPORT message on the uplink DCCH. The message shall contain IE "Event results" to report that cell 3 has triggered intra-frequency event 1A.

# 8.4.1.18 Measurement Control and Report: Traffic volume measurement for transition from CELL_FACH state to CELL_DCH state

8.4.1.18.1 Definition

8.4.1.18.2 Conformance requirement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- retrieve each set of measurement control information of measurement type "traffic volume" stored;
  - if the optional IE "measurement validity" for this measurement has not been included:
    - delete the measurement;
  - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states except CELL_DCH":

- stop measurement reporting; and

- save the measurement to be used after the next transition to CELL_FACH state;
- if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

- continue measurement reporting;

- if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "CELL_DCH":

- resume this measurement and associated reporting;

- if no traffic volume type measurement has been assigned to the UE with a MEASUREMENT CONTROL message when transiting to CELL_DCH state:
  - continue an ongoing traffic volume type measurement, assigned in System Information Block type 11 or System Information Block type 12.

#### Reference

3GPP TS 25.331 clause 8.4.1.7.4

## 8.4.1.18.3 Test Purpose

To confirm that the UE performs traffic volume measurements and the associated reporting when it enters CELL_DCH state from CELL_FACH state, and that such measurement contexts (and optionally, the reporting context) valid for CELL_DCH state have been previously stored.

To confirm that the UE shall continue to perform traffic volume measurement listed in the System Information Block type 11 or 12 messages, if no previously assigned measurements are present. The UE shall transmit MEASUREMENT REPORT messages if reporting conditions stated in System Information Block type 11 or 12 messages have been satisfied.

#### 8.4.1.18.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

## Test Procedure

Initially the UE is in CELL_FACH state. MEASUREMENT CONTROL message is sent to the UE to establish traffic volume measurement context with optional IE "measurement validity" is not present. The UE shall perform measurement and reporting as assigned in MEASUREMENT CONTROL message. RADIO BEARER RECONFIGURATION procedure is used to take the UE from CELL_FACH state to CELL_DCH state. While entering CELL_DCH state from CELL_FACH state, the UE shall delete traffic volume measurement contexts if optional IE "measurement validity" is not present. So, in CELL_DCH state UE shall not perform traffic volume measurement and reporting. UE is taken to the CELL_FACH state from CELL_DCH state using RADIO BEARER RECONFIGURATION procedure. The UE shall not send MEASUREMENT REPORT message as measurement context is already deleted.

Similarly behavior of the UE when moved from CELL_FACH state to CELL_DCH state and assigned traffic volume measurement context is present with IE "measurement validity" is set to "All But CELL_DCH state" or "CELL_DCH state" or "All states" is tested.

When the UE is in CELL_FACH state, System Information is modified to assign traffic volume measurement and reporting to the UE. No previously assigned traffic volume measurement contexts are present in the UE. The UE is taken to CELL_DCH state from CELL_FACH state using RADIO BEARER RECONFIGURATION procedure. In CELL_DCH state the UE shall continue traffic volume measurement and reporting as assigned in System Information. Traffic volume measurement and reporting is released by sending MEASUREMENT CONTROL message.

Step	Direction	Message	Comment
	UE SS		
1	←	MEASUREMENT CONTROL	Optional IE "measurement validity" is not included.
2	<b>→</b>	MEASUREMENT REPORT	
3	<ul> <li>←</li> </ul>	RADIO BEARER RECONFIGURATION	•
4	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall delete measurement context setup by MEASUREMENT CONTROL message (Step 1).
5			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
<mark>6</mark>	←	RADIO BEARER RECONFIGURATION	
7	→	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
8			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.

#### Expected Sequence

9	<mark>←</mark>	MEASUREMENT CONTROL	IE "measurement validity" is set to "All But CELL_DCH".
<mark>10</mark>	<mark>→</mark>	MEASUREMENT REPORT	
<mark>11</mark>	←	RADIO BEARER RECONFIGURATION	
12	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall stop traffic volume measurement setup by MEASUREMENT CONTROL message (Step 9).
<mark>13</mark>	I		SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
14	<mark>↓</mark>	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 9).
<mark>15</mark>	<del>&lt;</del>	RADIO BEARER RECONFIGURATION	
<mark>16</mark>	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
17	<b>←</b>	MEASUREMENT CONTROL	IE "measurement validity" is set to "CELL_DCH".
<mark>18</mark>			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
<mark>19</mark>	←	RADIO BEARER RECONFIGURATION	
20	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall start traffic volume measurement setup by MEASUREMENT CONTROL message (Step 17).
21	<b>→</b>	MEASUREMENT REPORT	
22	E	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 17)
23	←	RADIO BEARER RECONFIGURATION	
<mark>24</mark>	→	RADIO BEARER RECONFIGURATION	UE is in CELL_FACH state.

25	<mark>←</mark>	MEASUREMENT CONTROL	IE "measurement validity" is set to "All states".
<mark>26</mark>	<mark>→</mark>	MEASUREMENT REPORT	
27	<mark>←</mark>	RADIO BEARER RECONFIGURATION	•
28	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall continue traffic volume measurement setup by MEASUREMENT CONTROL message (Step 25).
29	<b>→</b>	MEASUREMENT REPORT	
30	<b>←</b>	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 25)
31	<b>←</b>	RADIO BEARER RECONFIGURATION	
32	<mark>→</mark>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_FACH state.
33	F	SIB11 modified	Traffic volume measurements and reporting is assigned to Ues
<mark>34</mark>	<b>→</b>	MEASUREMENT REPORT	•
35	<mark>←</mark>	RADIO BEARER RECONFIGURATION	•
36	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_DCH state from CELL_FACH state UE shall continue traffic volume measurement assigned in System Information (Step 33).
37	<b>→</b>	MEASUREMENT REPORT	
38	E	MEASUREMENT CONTROL	UE shall release measurement context assigned in System Information (Step 33).

# Specific Message Content

# MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
<ul> <li>Traffic volume measurement object list</li> </ul>	Not Present
<ul> <li>Traffic volume measurement quantity</li> </ul>	RLC Buffer Payload
<ul> <li>Traffic volume reporting quantity</li> </ul>	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Measurement validity	Not Present
- Report criteria	Periodical Reporting Criteria
- Reporting amount	8
- Reporting interval	8 Sec
Measurement reporting mode	
- Transfer Mode	Acknowledged mode
- Periodical or event trigger	Periodic
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

# MEASUREMENT REPORT (Step 2)

ſ	Information Element	Value/Remarks
Ī	Measurement identity	1
	Measured Results	
	- CHOICE measurement	Traffic volume measured results list
	<ul> <li>Traffic volume measurement results</li> </ul>	
	- RB identity	0
	- RLC buffer payload	Check to see if this IE is present
	<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
	- RLC buffer variance	Check to see if this IE is absent
	- RB identity	1
	- RLC buffer payload	Check to see if this IE is present
	<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
	<ul> <li>RLC buffer payload variance</li> </ul>	Check to see if this IE is absent
	- RB identity	2
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload variance	Check to see if this IE is absent
	- RB identity	
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload variance	
	- RB identity	4 Check to each if this IF is present
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC builer payloau variance	
	- RD identity	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload average	Check to see if this IE is absent
	Measured results on RACH	Check to see if this IE is absent
	Additional measured results	Check to see if this IE is absent
	Event results	Check to see if this IE is absent

# RADIO BEARER RECONFIGURATION (Step 3, 11, 19, 27, and 35)

Use the same message type found in Annex A with condition set to A4.

### RADIO BEARER RECONFIGURATION (Step 6, 15, 23, and 31)

Use the same message type found in Annex A with condition set to A5.

#### MEASUREMENT CONTROL (Step 9)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
<ul> <li>CHOICE measurement type</li> </ul>	Traffic Volume Measurement
- Measurement validity	All But CELL_DCH

#### MEASUREMENT REPORT (Step 10)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	2

#### MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Release
Measurement reporting mode	Not Present
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

# MEASUREMENT CONTROL (Step 17)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
<ul> <li>CHOICE measurement type</li> </ul>	Traffic Volume Measurement
- Measurement validity	CELL_DCH

#### MEASUREMENT REPORT (Step 21)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	3

#### MEASUREMENT CONTROL (Step 22)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:
Information Element	Value/Remark
Measurement Identity	<mark>3</mark>

# MEASUREMENT CONTROL (Step 25)

# The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
<ul> <li>UL transport channel identity</li> </ul>	RACH
<ul> <li>UL transport channel identity</li> </ul>	DCH :1
<ul> <li>UL transport channel identity</li> </ul>	<u>DCH : 5</u>
- Measurement validity	All States

#### MEASUREMENT REPORT (Step 26, and 29)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	4

# MEASUREMENT CONTROL (Step 30)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4

#### System Information Block type 11 (Step 33)

Information Element	Value/Remarks	
SIB12 indicator	FALSE	
FACH measurement occasion info	Not Present	
Measurement control system information		
- Use of HCS	Not used	
- Cell_selection_and_reselection_quality	CPICH RSCP	
<ul> <li>Intra-frequency measurement system</li> </ul>		
information	Not Present	
<ul> <li>Inter-frequency measurement system</li> </ul>		
information	Not Present	
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present	
<ul> <li>Traffic volume measurement system information</li> </ul>		
<ul> <li>Traffic volume measurement ID</li> </ul>	5	
<ul> <li>Traffic volume measurement object list</li> </ul>	Not Present	
<ul> <li>Traffic volume measurement quantity</li> </ul>	RLC Buffer Payload	
<ul> <li>Traffic volume reporting quantity</li> </ul>		
- RB buffer payload	True	
- RB buffer payload average	False	
- RB buffer payload variance	False	
- Traffic volume measurement reporting criteria	Not Present	
- Measurement validity	Not Present	
<ul> <li>Measurement reporting mode</li> </ul>		
<ul> <li>Measurement report transfer mode</li> </ul>	Acknowledged Mode	
- Periodical or event trigger	Periodical	
<ul> <li>Report criteria system Information</li> </ul>	Periodical reporting criteria	
- Reporting amount	Infinity	
- Reporting interval	8 seconds	
<ul> <li>UE internal measurement system information</li> </ul>	Not Present	

# MEASUREMENT REPORT (Step 34, and 37)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	5

#### MEASUREMENT CONTROL (Step 38)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark	
Measurement Identity	5	

# 8.4.1.18.5 Test Requirement

The UE shall send MEASUREMENT REPORT message in steps 21, 29 and 37. The UE shall not send MEASUREMENT REPORT message in steps 5, 8, and 13.

# 8.4.1.19 Measurement Control and Report: Traffic volume measurement for transition from CELL_DCH to CELL_FACH state

- 8.4.1.19.1 Definition
- 8.4.1.19.2 Conformance requirement

Upon transition from CELL_DCH to CELL_FACH state, the UE shall:

- retrieve each set of measurement control information of measurement type "traffic volume" stored in the UE; and
  - if the optional IE "measurement validity" for this measurement has not been included:
    - delete the associated measurement;
  - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":
    - stop measurement reporting;
    - save the associated measurement to be used after the next transition to CELL_DCH state;
  - if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":
    - continue measurement reporting;
  - if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":
    - resume this measurement and associated reporting;
- if no traffic volume type measurements applicable to CELL_FACH states are stored in the UE:
  - store the measurement control information from the IE "Traffic volume measurement system information" received in System Information Block type 12 or System Information Block type 11;
  - begin traffic volume measurement reporting according to the assigned information.

#### 8.4.1.19.3 Test Purpose

The UE shall performs traffic volume measurements and the associated reporting when it enters CELL_FACH state from CELL_DCH state, and that such measurement contexts (and optionally, the reporting context) valid for CELL_FACH state have been previously stored.

The UE shall perform traffic volume measurement listed in the System Information Block type 11 or 12 messages, if no previously assigned measurements are present. The UE shall transmit MEASUREMENT REPORT messages if reporting conditions has been satisfied.

Reference

3GPP TS 25.331 clause 8.4.1.6.6

8.4.1.19.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

#### Test Procedure

Initially the UE is in CELL_DCH state. MEASUREMENT CONTROL message is sent to the UE to establish traffic volume measurement context with optional IE "measurement validity" is not present. The UE shall perform measurement and reporting as assigned in MEASUREMENT CONTROL message. RADIO BEARER RECONFIGURATION procedure is used to take the UE from CELL_DCH state to CELL_FACH state. While entering CELL_FACH state from CELL_DCH state, the UE shall delete traffic volume measurement contexts if optional IE "measurement validity" is not present. So, in CELL_FACH state UE shall not perform traffic volume measurement and reporting. UE is taken to the CELL_DCH state from CELL_FACH state using RADIO BEARER RECONFIGURATION procedure. The UE shall not send MEASUREMENT REPORT message as measurement context is already deleted.

Similarly behavior of the UE when moved from CELL_DCH state to CELL_FACH state and assigned traffic volume measurement context is present with IE "measurement validity" is set to "All But CELL_DCH state" or "CELL_DCH state" or "All states" is tested.

When the UE is in CELL_DCH state, System Information is modified to assign traffic volume measurement and reporting to the UE. No previously assigned traffic volume measurement contexts are present in the UE. The UE is taken to CELL_FACH state from CELL_DCH state using RADIO BEARER RECONFIGURATION procedure. In CELL_FACH state the UE shall perform traffic volume measurement and reporting as assigned in System Information. Traffic volume measurement and reporting is released by sending MEASUREMENT CONTROL message.

Step	Direction UE SS	Message	Comment
1	←	MEASUREMENT CONTROL	Optional IE "measurement validity" is not included.
2	→	MEASUREMENT REPORT	
3	E	RADIO BEARER RECONFIGURATION	
4		RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall delete measurement context setup by MEASUREMENT CONTROL message (Step 1).
5			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
<mark>6</mark>	<b>←</b>	RADIO BEARER RECONFIGURATION	
7	>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
8			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.

#### Expected Sequence

9	<mark>←</mark>	MEASUREMENT CONTROL	IE "measurement validity" is set to "All But CELL_DCH".
10			SS waits for 8 seconds to confirm that there is no MEASUREMENT REPORT message from UE.
11	←	RADIO BEARER RECONFIGURATION	
12	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall start traffic volume measurement setup by MEASUREMENT CONTROL message (Step 9).
13	>	MEASUREMENT REPORT	
14	E	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 9).
<mark>15</mark>	< Contract of the second secon	RADIO BEARER RECONFIGURATION	
<mark>16</mark>	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
17	<del>&lt;</del>	MEASUREMENT CONTROL	IE "measurement validity" is set to "CELL_DCH".
<mark>18</mark>	<b>→</b>	MEASUREMENT REPORT	
<mark>19</mark>	<mark>←</mark>	RADIO BEARER RECONFIGURATION	
20	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall stop traffic volume measurement setup by MEASUREMENT CONTROL message (Step 17).
<mark>21</mark>	•	•	SS waits for 8 seconds to confirm that there is no
22	E	MEASUREMENT CONTROL	UE shall release measurement context setup by ^E . MEASUREMENT CONTROL message (Step 17)
23	E	RADIO BEARER RECONFIGURATION	
24	<mark>→</mark>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.

25	<mark>←</mark>	MEASUREMENT CONTROL	IE "measurement validity" is set to "All states".
<mark>26</mark>	<b>→</b>	MEASUREMENT REPORT	
27	←	RADIO BEARER RECONFIGURATION	•
28	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall continue traffic volume measurement setup by MEASUREMENT CONTROL message (Step 25).
29	<mark>→</mark>	MEASUREMENT REPORT	
30	<mark>←</mark>	MEASUREMENT CONTROL	UE shall release measurement context setup by MEASUREMENT CONTROL message (Step 25)
31	E	RADIO BEARER RECONFIGURATION	
32	<mark>→</mark>	RADIO BEARER RECONFIGURATION COMPLETE	UE is in CELL_DCH state.
33	<mark>←</mark>	SIB12 modified	Traffic volume measurements and reporting is assigned to UEs
<mark>34</mark>	<mark>←</mark>	RADIO BEARER RECONFIGURATION	
35	→	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_FACH state from CELL_DCH state UE shall start traffic volume measurement as assigned in System Information (Step 33).
<mark>36</mark>	<mark>→</mark>	MEASUREMENT REPORT	
37	<b>←</b>	MEASUREMENT CONTROL	UE shall release measurement context assigned in System Information (Step 33).

## Specific Message Content

## MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
<ul> <li>Traffic volume measurement object list</li> </ul>	Not Present
<ul> <li>Traffic volume measurement quantity</li> </ul>	RLC Buffer Payload
<ul> <li>Traffic volume reporting quantity</li> </ul>	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
- Measurement validity	Not Present
- Report criteria	Periodical Reporting Criteria
- Reporting amount	8
- Reporting interval	8 Sec
Measurement reporting mode	
- Transfer Mode	Acknowledged mode
- Periodical or event trigger	Periodic
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

# MEASUREMENT REPORT (Step 2)

ſ	Information Element	Value/Remarks
Ī	Measurement identity	1
	Measured Results	
	- CHOICE measurement	Traffic volume measured results list
	<ul> <li>Traffic volume measurement results</li> </ul>	
	- RB identity	0
	- RLC buffer payload	Check to see if this IE is present
	<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
	- RLC buffer variance	Check to see if this IE is absent
	- RB identity	1
	- RLC buffer payload	Check to see if this IE is present
	<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
	<ul> <li>RLC buffer payload variance</li> </ul>	Check to see if this IE is absent
	- RB identity	2
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload variance	Check to see if this IE is absent
	- RB identity	
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload variance	
	- RB identity	4 Check to page if this IF is present
	- RLC buffer payload	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC builer payloau variance	
	- RD identity	Check to see if this IE is present
	- RLC buffer payload average	Check to see if this IE is absent
	- RLC buffer payload variance	Check to see if this IE is absent
	Measured results on RACH	Check to see if this IE is absent
	Additional measured results	Check to see if this IE is absent
	Event results	Check to see if this IE is absent

# RADIO BEARER RECONFIGURATION (Step 3, 11, 19, 27, and 34)

Use the same message type found in Annex A with condition set to A5.

#### RADIO BEARER RECONFIGURATION (Step 6, 15, 23, and 31)

Use the same message type found in Annex A with condition set to A4.

#### MEASUREMENT CONTROL (Step 9)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Setup
<ul> <li>CHOICE measurement type</li> </ul>	Traffic Volume Measurement
- Measurement validity	All But CELL_DCH

## MEASUREMENT REPORT (Step 13)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	2

#### MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remark
Measurement Identity	2
Measurement Command	Release
Measurement reporting mode	Not Present
Additional measurement list	Not Present
DPCH compressed mode status	Not Present

## MEASUREMENT CONTROL (Step 17)

The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Measurement validity	CELL_DCH

#### MEASUREMENT REPORT (Step 18)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	3
	·

#### MEASUREMENT CONTROL (Step 22)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	<mark>3</mark>

# MEASUREMENT CONTROL (Step 25)

# The contents of this message are identical to MEASUREMENT CONTROL (Step 1) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	4
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
<ul> <li>UL transport channel identity</li> </ul>	RACH
<ul> <li>UL transport channel identity</li> </ul>	DCH :1
<ul> <li>UL transport channel identity</li> </ul>	DCH : 5
- Measurement validity	All States

#### MEASUREMENT REPORT (Step 26, and 29)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Ī	Information Element	Value/Remarks
	Measurement identity	4

# MEASUREMENT CONTROL (Step 30)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

	Information Element		Value/Remark	
Measurem	nent Identity	4		

#### System Information Block type 12 (Step 33)

Information Element	Value/Remarks
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_quality	CPICH RSCP
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	Not Present
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	Not Present
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system information</li> </ul>	
<ul> <li>Traffic volume measurement ID</li> </ul>	5
<ul> <li>Traffic volume measurement object list</li> </ul>	Not Present
<ul> <li>Traffic volume measurement quantity</li> </ul>	RLC Buffer Payload
<ul> <li>Traffic volume reporting quantity</li> </ul>	
- RB buffer payload	True
- RB buffer payload average	False
- RB buffer payload variance	False
<ul> <li>Traffic volume measurement reporting criteria</li> </ul>	Not Present
- Measurement validity	Not Present
- Measurement reporting mode	
- Measurement report transfer mode	Acknowledged Mode
- Periodical or event trigger	Periodical
- Report criteria system Information	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	8 seconds
<ul> <li>UE internal measurement system information</li> </ul>	Not Present

#### MEASUREMENT REPORT (Step 36)

The contents of this message are identical to MEASUREMENT REPORT (Step 2) message with the following exceptions:

Information Element	Value/Remarks
Measurement identity	5

#### MEASUREMENT CONTROL (Step 37)

The contents of this message are identical to MEASUREMENT CONTROL (Step 14) message with the following exceptions:

Information Element	Value/Remark
Measurement Identity	5

# 8.4.1.19.5 Test Requirement

The UE shall send MEASUREMENT REPORT message in steps 13, 29 and 36. The UE shall not send MEASUREMENT REPORT message in steps 5, 8, and 21.

# 8.4.1.20 Measurement Control and Report: Traffic volume measurement in CELL_PCH state

8.4.1.20.1 Definition

8.4.1.20.2 Conformance requirement

In CELL_PCH state, when the reporting criteria is fulfilled for any traffic volume measurement which is being performed in the UE, the UE shall first perform the cell update procedure with the cause "uplink data transmission", in order to transit to CELL_FACH state and then transmit a MEASUREMENT REPORT message on the uplink DCCH

# 8.4.1.20.3 Test Purpose

To confirm that in CELL_PCH state, UE performs assigned traffic volume measurement. When reporting criteria for ongoing traffic volume measurement is fulfilled, the UE shall first perform cell update procedure and then transmit MEASUREMENT REPORT message.

#### Reference

3GPP TS 25.331 clause 8.4.2.2

8.4.1.20.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

#### Test Procedure

Initially the UE is in CELL_DCH state. System Information block type 12 message is modified to assign traffic volume measurement and reporting. RADIO BEARER RECONFIGURATION procedure is used to take UE from CELL_DCH state to CELL_PCH state. While entering in CELL_PCH state from CELL_DCH state UE should start traffic volume measurement as assigned in System Information. When reporting criteria for traffic volume measurement is satisfied the UE shall change state to CELL_FACH and perform CELL UPDATE procedure. After successful completion of CELL UPDATE procedure, UE shall transmit MEASUREMENT REPORT message.

#### **Expected Sequence**

Step	Direction	Message	Comment
	UE SS		
1	E	SIB12 modified	Traffic volume measurements and reporting is assigned to UEs
2	←	RADIO BEARER RECONFIGURATION	IE "RRC State Indicator" is set to "CELL_PCH"
3	<b>→</b>	RADIO BEARER RECONFIGURATION COMPLETE	While entering in CELL_PCH state from CELL_DCH state UE shall start traffic volume measurement as assigned in System Information (Step 1).
4	<b>→</b>	CELL UPDATE	The UE shall move to CELL FACH state with the message set to "uplink data transmission" in IE "Cell update cause".
5	←	CELL UPDATE CONFIRM	
6	→	MEASUREMENT REPORT	

#### Specific Message Content

# System Information Block type 12 (Step 1)

Information Element	Value/Remarks
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
<ul> <li>Cell_selection_and_reselection_quality</li> </ul>	CPICH RSCP
<ul> <li>Intra-frequency measurement system</li> </ul>	
information	Not Present
<ul> <li>Inter-frequency measurement system</li> </ul>	
information	Not Present
<ul> <li>Inter-RAT measurement system information</li> </ul>	Not Present
<ul> <li>Traffic volume measurement system information</li> </ul>	
- Traffic volume measurement ID	1
<ul> <li>Traffic volume measurement object list</li> </ul>	Not Present
- UL transport channel identity	RACH
- UL transport channel identity	<u>DCH:5</u>
- I raffic volume measurement quantity	Variance of RLC Buffer Payload
- Time Interval to take an average	200 msec
- I rattic volume reporting quantity	
- RB buffer payload	
- RB buffer payload average	
- RB builer payload variance	Not Present
Inamic volume measurement reporting criteria	All States
Measurement reporting mode	All States
- Measurement reporting mode	Acknowledged Mode
- Deriodical or event trigger	Periodical
- Report criteria system Information	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	8 seconds
- UE internal measurement system information	Not Present

# RADIO BEARER RECONFIGURATION (Step 2)

Use the same message type found in Annex A with condition set to A5 except following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

# CELL UPDATE (Step 4)

Use the same message type found in Annex A with condition set to A5 except following exceptions:

Information Element	Value/remark
Cell Update Cause	Check to see if set to "Uplink data transmission"

# MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	<mark>1</mark>
Measured Results	
- CHOICE measurement	Traffic volume measured results list
<ul> <li>Traffic volume measurement results</li> </ul>	
- RB identity	0
- RLC buffer payload	Check to see if this IE is absent
<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
- RLC buffer variance	Check to see if this IE is present
- RB identity	1
- RLC buffer payload	Check to see if this IE is absent
<ul> <li>RLC buffer payload average</li> </ul>	Check to see if this IE is absent
<ul> <li>RLC buffer payload variance</li> </ul>	Check to see if this IE is present
- RB identity	2
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	3
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buffer payload variance	Check to see if this IE is present
- RB identity	
- RLC buffer payload	Check to see if this IE is absent
- RLC buffer payload average	Check to see if this IE is absent
- RLC buller payload variance	
- RD Identity	20 Chack to opp if this IF is sheart
- RLC buller payload	Check to see if this IE is absent
- RLC buller payload average	Check to see if this IE is absent
Moosured results on PACH	Check to see if this IE is present
Additional measured results	Check to see if this IE is absent
Fyont results	Check to see if this IE is absent

#### 8.4.1.20.5

Test Requirement

The UE shall send CELL UPDATE message with cause "Uplink data transfer" in step 4 and MEASUREMENT REPORT message in 6.

# End of modification

CHANGE REQUEST					
^ж ТS 3	4.123-1 CR 137 <b># rev</b> - <b>#</b> Current version: 4.1.0				
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.					
Proposed change	affects: # (U)SIM ME/UE X Radio Access Network Core Network				
Title: ೫	Correction to RRC test cases				
Source: ೫	Ericsson				
Work item code: ℜ	TEI Date: # 2002-02-11				
Category: ₩	FRelease: \$\$REL-4Use one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99D (editorial modification)R99Detailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5				
Reason for change	• ¥ Correction to RRC test cases				
Reason for change: #       Correction to RRC test cases         Summary of change: #       1. 8.2.1.8.4: Added value to New C-RNTI in RADIO BEARER SETUP message as otherwise the specified sequence would be wrong. When the UE enters CELL_FACH and does not have a C-RNTI it shall perform a CELL_UPDATE (TS 25.331 8.2.2.3 However, by supplying a C-RNTI in the configuration message and a scramblin code for the cell, the CELL_UPDATE is not performed by the UE.         2.       8.2.1.8.5: Editorial correction (linefeed added)         3.       8.2.1.9: Correction and clarification of conformance requirement and test procedure.					
Consequences if not approved:	% A good UE will fail tests				
Clauses affected:	₭ 8.2.1.8.4 8.2.1.8.5 8.2.1.9				
Other specs affected:	#       Other core specifications       #         Test specifications       O&M Specifications				
Other comments:	X   Affects R99 and REL-4				

# 3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21th-22th February 2002

# 3GPP TSG-T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

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T1-020044

CR-Form-v5

Tdoc T1S-020066r3

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# <Start of modified section>

- 8.2.1.8 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success
- 8.2.1.8.1 Definition

#### 8.2.1.8.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and responds with a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1.

8.2.1.8.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message.

8.2.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

#### **Test Procedure**

The UE is in CELL_DCH state, after the test operator is asked to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE. After the UE receives this message, it transits from CELL_DCH to CELL_FACH state. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	*	<u>.</u>	RADIO BEARER SETUP	SS requests test operator to make an outgoing packet-switched data call.
2	-	→	RADIO BEARER SETUP COMPLETE	The UE selects PRACH and S- CCPCH indicated in SIB5 or SIB6 after entering CELL FACH state.

#### Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A- with the following exception:

Information Element	Value/remark
New C-RNTI	<u>0000 0000 0000 0001B</u>

#### 8.2.1.8.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER SETUP COMPLETE message.

# <End of modified section>

# <Start of modified section>

- 8.2.1.9 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)
- 8.2.1.9.1 Definition
- 8.2.1.9.2 Conformance requirement

The UE shall initiate the cell update procedure during a radio bearer establishment procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer establishment procedure and correctly establish the radio bearer.

1. If after state transition the UE enters CELL FACH state, the UE shall, after the state transition:

<u>....</u>

- if the contents of the variable C_RNTI is empty:
  - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
- 2. If the CELL UPDATE CONFIRM message
  - does not include "RB information elements"; and
  - does not include "Transport channel information elements"; and
  - does not include "Physical channel information elements"; and
  - includes "CN information elements"; or
  - includes the IE "Ciphering mode info"; or
  - includes the IE "Integrity protection mode info"; or
  - includes the IE "New C-RNTI"; or
  - includes the IE "New U-RNTI":

the UE shall:

- transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.
- 3. In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:
  - transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM <u>RLC;</u>

#### Reference

3GPP TS 25.331 clause <u>8.2.2.3</u>8.2.1., 8.3.1, 8.2.2.4

#### 8.2.1.9.3 Test purpose

- 1. To verify that the UE when receiving a RADIO BEARER SETUP message not including a value for C-RNTI initiate a cell update procedure and indicating the cause "Cell reselection"
- 2. To verify that the UE when the CELL UPDATE CONFIRM message does not include "RB information elements", "Transport channel information elements" nor "Physical channel information elements" but include the IE "New C-RNTI" transmit a UTRAN MOBILITY INFORMATION CONFIRM message.

<u>3.</u> To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message after it completes <u>thea</u> cell update procedure.

8.2.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell- Cell 1 is active.

UE: PS-DCCH_DCH (state 6-7) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in CELL_DCH state. The SS transmits a RADIO BEARER SETUP message which includes IE"Primary CPICH info" and no dedicated physical channel information, to request the UE to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, Due to absence of the C-RNTI in the RADIO BEARER SETUP message the UE shall initiate the cell update procedure even if the UE selects the same cell as indicated by the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD). The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on the DCCH using AM RLC. The UE transmits a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1			Void	
2			Void	
3	•	÷	RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH
4	-	<b>&gt;</b>	CELL UPDATE	The value "cell reselection" set in IE "Cell update cause".
5	•	÷	CELL UPDATE CONFIRM	C-RNTI included
6	-	<u>&gt;</u>	UTRAN MOBILITY INFORMATION CONFIRM	
7	-	<del>)</del>	RADIO BEARER SETUP COMPLETE	

#### **Specific Message Contents**

#### RADIO BEARER SETUP (Step 3)

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A-with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary scrambling code	<del>150</del>

#### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"cell reselection"

#### CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:-

Information Element	Value/remark
New C-RNTI	<u>0000 0000 0000 0001B</u>

#### UTRAN MOBILITY UPDATE CONFIRM (Step 6)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in Annex A.

#### RADIO BEARER SETUP COMPLETE (Step 7)

The contents of RADIO BEARER SETUP COMPLETE message is identical as " RADIO BEARER SETUP COMPLETE message" as found in Annex A.

#### 8.2.1.9.5 Test requirement

- 1. After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".
- 2. After step 5 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC.
- 3. After step 6 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

# <End of modified section>

# 3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21st –22nd February 2002

3GPP TSG- T1 SIG Meeting #21 Sophia Antipolis, France, 18th-20th February 2002 T1-020043

CR-Form-v6.1

T1S-020017r3

Clause 8.1.1.4, clause 8.1.1.5 an clause 8.1.1.6

The test procedure is revised. The new test method uses SIB type 5 instead of SIB type 3 and 4. IE "Available Signature" in SIB type 5 is modified. Following that the UE should respond to a paging request using the correct PRACH parameter to transmit the CELL UPDATE message.

In step 3, specific message content for SIB 5 is provided.

The changes to the IEs in SIB type 5 have been clearly defined.

In clause 8.1.1.6, it is clarified that the cell update cause in step 5 is paging response.

Clause 8.1.2.2

In SIB type 5, IE "Power offset Pp-m" is set to '0', both IE "Reference TFC ID" in computed and signalled gain factor are set to '0' and IE "Gain factor ßc" is set to '11' for signalled gain factor.

Clause 8.1.2.4 (from Ericsson)

Correction of values for UARFCN downlink IE and UARFCN uplink IE in RRC CONNECTION REJECT message. According to 25.331 10.3.6.36 UARFCN downlink IE must have a value while UARFCN uplink IE may be omitted.

#### Clause 8.1.3.5

In the conformance requirement, it is clarified that not all invalid message received will result in the release of the RRC connection.

The test purpose is revised to test that the UE transmits RRC STATUS message instead of RRC CONNECTION RELEASE message when the invalid message is received. The UE is requested to report measurement result on RACH messages before the invalid RRC CONNECTION RELEASE message is transmitted by SS. The UE shall continue this procedure after it receives the invalid message.

In the test requirement, the statement to check that UE release the RRC connection has been removed. Furthermore, the UE is required to include measurement result on the RACH messages.

Clause 8.1.7.1 and clause 8.1.7.2

The value of IE "UEA0" in SECURITY MODE COMMAND message is set to "TRUE".

Revision 3

(from R&S)

The following test case specification is affected: - tc 8.1.2.7 (Request the UE Capabilities in CONNECTION SETUP)

The RRC CONNECTION SETUP COMPLETE message sent by the UE contains "UE system specific capability" IEs which are checked by the SS against PICS/PIXIT values (step 4). This requires that the "UE radio access capability update requirement" IE is activated by the SS in step 2.

#### (from Ericsson)

8.1.3.1: Clarifications to conformance requirement, test purpose, method of test and test requirement. Number of RRC CONNECTION RELEASE COMPLETE transmissions shall be N308+1 and not N308.

Consequences if not approved:	The test prose cannot test UE correctly.	
Clauses affected:	92	
Other specs	#   Other core specifications	
affected:	Test specifications O&M Specifications	
Other comments:	¥	

#### How to create CRs using this form:

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# 8 Radio Resource Control RRC

# 8.1 RRC Connection Management Procedure

- 8.1.1 Paging
- 8.1.1.1 Paging for Connection in idle mode
- 8.1.1.1.1 Definition

#### 8.1.1.1.2 Conformance requirement

In idle mode, UE monitors the paging occasions determined using parameters from SYSTEM INFORMATION BLOCK messages. When the UE receives a PAGING TYPE 1 message transmitted on PCCH during one of its assigned paging occasions, it shall attempt to establish an RRC connection.

#### Reference

3GPP TS 25.331 clause 8.1.2, 3GPP TS 25.211 clause 5.3.3.7 (FDD), 3GPP TS 25.221 (TDD), 3GPP TS 25.304 clause 8.

#### 8.1.1.1.3 Test purpose

To confirm that the UE establishes an RRC connection after it receives a PAGING TYPE 1 message which includes IE "UE identity" (in IE "Paging Record") set to the IMSI of the UE.

#### 8.1.1.1.4 Method of test

Initial Condition

#### System Simulator: 1 cell

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108 with a CN UE identity (set to IMSI), depending on the CN domain(s) supported by the UE.

#### Test Procedure

SS transmits SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING TYPE 1 message, which includes an unmatched CN UE identity for the UE in the idle state. The UE shall not change its state. The SS transmits a PAGING TYPE 1 message, which includes a matched CN UE identity for the UE in the idle state. During transmission of PAGING TYPE 1 messages, SS selects the correct paging indicator on the PICH in order to allow the UE to respond to paging. Then the UE transmits an RRC CONNECTION REQUEST to the SS, the SS transmits an RRC CONNECTION SETUP to the UE. When the UE receives this message, the UE establishes an RRC connection and transmits an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

NOTE: For UEs supporting GSM-MAP CN type only, SYSTEM INFORMATION TYPE 1 messages are to be sent by SS in this test case. On the other hand, SS transmits SYSTEM INFORMATION TYPE 13 messages if the UE under test supports only ANSI-41 CN type.

## Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	SYSTEM INFORMATION BLOCK TYPE 13 or SYSTEM INFORMATION BLOCK TYPE 1	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents.
2	÷	PAGING TYPE 1	The SS transmits the message, which includes an unmatched identity (incorrect IMSI), and the UE does not change its state.
3	÷	PAGING TYPE 1	The SS transmits the message, which includes a matched identity (test-SIM IMSI).
4	$\rightarrow$	RRC CONNECTION REQUEST	
5	÷	RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish an RRC connection.
6	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	

# Specific Message Contents

# SYSTEM INFORMATION BLOCK TYPE 1 (Step 1) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	
<ul> <li>CN domain system information</li> </ul>	
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE CN Type	Supported CN type
<ul> <li>CN domain specific NAS system information</li> </ul>	00 00(CS) or 1E 01(PS)
- CN domain specific DRX cycle length coefficient	7
UE Timers and constants in idle mode	
- T300	4000 milliseconds
- N300	3
- T312	10 seconds
- N312	200

## SYSTEM INFORMATION TYPE 13 (Step 1) - for UEs supporting ANSI-41 core networks

Information Element	Value/remark
CN domain system information list	Only 1 entry
CN domain system information	
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE CN Type	Supported CN type
<ul> <li>CN domain specific NAS system information</li> </ul>	Default
- CN domain specific DRX cycle length coefficient	6
UE Timers and constants in idle mode	
- T300	6000 milliseconds
- N300	3
- T312	10 sec
- N312	200

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to an arbitrary octet string of length 7 bytes which is
	different from the IMSI value stored in the TEST USIM
	card.
BCCH modification info	Not Present

#### PAGING TYPE 1 (Step 3)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	CN identity
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the
	TEST USIM card
BCCH modification info	Not Present

#### **RRC CONNECTION REQUEST (Step 4)**

Information Element	Value/remark
Message type	
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI
Establishment Cause	Check to see if it is set to the same value as "Paging Cause" IE in the PAGING TYPE 1 message transmitted on step 3.
Protocol Error Indicator	Check to see if it is set to FALSE
Measured results on RACH	Not checked.

#### 8.1.1.1.5 Test requirement

After step 2 the UE shall not transmit on the uplink CCCH in order to establish a RRC connection.

After step 5 the UE shall have an RRC connection based on dedicated physical channel resources and transmit an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

#### 8.1.1.2 Paging for Connection in connected mode (CELL_PCH)

8.1.1.2.1 Definition

#### 8.1.1.2.2 Conformance requirement

In CELL_PCH state, a UE can respond to a paging request from UTRAN. In this case, the UTRAN has requested to establish a connection with the UE. The UE shall then attempt to perform a cell update procedure and move to CELL_FACH state in order to respond to the paging using uplink CCCH.

#### Reference

3GPP TS 25.331 clause 8.1.2.

#### 8.1.1.2.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message which indicates that the paging has originated from UTRAN. To verify that the UE performs cell update procedure after entering the CELL_FACH state.

#### 8.1.1.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH state (state 6-12) as specified in clause 7.4 of TS 34.108, with a valid U-RNTI already assigned by the SS.

#### Test Procedure

SS transmits SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING TYPE 1 message, which includes an unmatched U-RNTI. The UE does not change its state. Then SS transmits a PAGING TYPE 1 message with a matched identifier but originates from the CN instead of UTRAN. The UE shall not change state after receiving this message. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI. The ue shall not change state after receiving this message. The SS transmits a PAGING TYPE 1 message, which includes a matched U-RNTI. Then the UE enters the CELL_FACH state and performs the cell updating procedure.

NOTE: For UEs supporting GSM-MAP CN type only, SYSTEM INFORMATION TYPE 1 messages are to be sent by SS in this test case. On the other hand, SS transmits SYSTEM INFORMATION TYPE 13 messages if the UE under test supports only ANSI-41 CN type.

Step	Direction		Message	Comment
	UE	SS		
1		÷	SYSTEM INFORMATION BLOCK TYPE 13 or SYSTEM INFORMATION BLOCK TYPE 1	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents
2	•	÷	PAGING TYPE 1	The SS transmits a message including an unmatched identifier. UE shall not respond to the paging.
3		<del>(</del> -	PAGING TYPE 1	The SS transmits a message includes a matched identifier but with the originator being the CN, UE shall not respond to the paging.
4		<del>(</del> -	PAGING TYPE 1	The SS transmits the message with the UTRAN being the originator and including the UE's assigned U-RNTI
5	-	<b>&gt;</b>	CELL UPDATE	The UE enters the CELL_FACH state. UE performs cell updating procedure. The CELL UPDATE message shall contain the value "Cell Update Cause" set to "paging response".
6		÷	CELL UPDATE CONFIRM	Use the default message specified in Annex A.

#### Expected sequence

1

#### Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an arbitrary 16-bit string which is different from
	the SRNC identity assigned.
- S-RNTI	Set to an arbitrary 20-bit string which is different from
	the S-RNTI assigned.
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

#### PAGING TYPE 1 (Step 3)

Same as the PAGING TYPE 1 message as in step 3 of clause 8.1.1.1.4.

#### PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to the same SRNC identity as previously assigned.
- S-RNTI	Set to the same S-RNTI as previously assigned.
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

#### SYSTEM INFORMATION BLOCK TYPE 13

Use the same SYSTEM INFORMATION BLOCK TYPE 13 message as specified in clause 8.1.1.1.4.

#### SYSTEM INFORMATION BLOCK TYPE 1

Use the same SYSTEM INFORMATION BLOCK TYPE 1 message as specified in clause 8.1.1.1.4.

#### 8.1.1.2.5 Test requirement

After step 2 the UE shall not respond to the PAGING TYPE 1 message sent in step 2.

After step 3 the UE shall not respond to the PAGING TYPE 1 message sent in step 3.

After step 4 the UE shall enter the CELL FACH state and send a CELL UPDATE message with "Cell Update Cause" IE set to "paging response".

After step 6 the UE shall be in the CELL_FACH state.

#### 8.1.1.3 Paging for Connection in connected mode (URA_PCH)

- 8.1.1.3.1 Definition
- 8.1.1.3.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 1 message from the network to selected UEs in URA_PCH state using the paging control channel (PCCH). The UE listens to it and then enters the CELL_FACH state.

#### Reference

3GPP TS 25.331 clause 8.1.2.

#### 8.1.1.3.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message which is set to "UTRAN identity" in IE "Used paging identity" and the U-RNTI value assigned to UE in the IE "U-RNTI".

#### 8.1.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: URA_PCH state (state 6-13) as specified in clause 7.4 of TS 34.108, with a valid U-RNTI assigned by the SS.

#### Test Procedure

The SS transmits a PAGING TYPE 1 message, which includes an unmatched U-RNTI. The UE does not change its current state. The SS transmits a PAGING TYPE 1 message which includes a matched U-RNTI. Then the UE listens to it and enters the CELL_FACH state to transmit a CELL UPDATE message using uplink CCCH in respond to the paging.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PAGING TYPE 1	The SS transmits the message that
			includes an unmatched identifier,
			but UE does not change its state.
2	÷	PAGING TYPE 1	The SS transmits the message that
			includes a matched identifier.
3	$\rightarrow$	CELL UPDATE	The UE enters the CELL_FACH
			state.
4	÷	CELL UPDATE CONFIRM	Use the default message specified
			in Annex A.

#### Specific Message Contents

#### PAGING TYPE 1 (Step 1)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to an unused SRNC identity which is different from
	the SRNC identity assigned.
- S-RNTI	Set to an arbitrary 20-bit string which is different from
	the S-RNTI assigned.
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

#### Release 4

1

#### PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Set to the previously assigned SRNC identity
- S-RNTI	Set to previously assigned S-RNTI
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

## 8.1.1.3.5 Test requirement

After step 1 the UE shall not respond to the paging.

After step 2 the UE shall enter the CELL FACH state, and transmit CELL UPDATE message to initiate the cell updating procedure with the paging cause set to "paging response".

After step 4 the UE shall be in the CELL_FACH state.

# 8.1.1.4 Paging for Notification in idle mode

8.1.1.4.1 Definition

#### 8.1.1.4.2 Conformance requirement

When a system information block on the BCCH is modified, the PAGING TYPE 1 message can be sent on the PCCH to inform UE in the idle mode about the changes, which are currently taking place. The PAGING TYPE 1 message includes the IE "BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently during idle mode.

#### Reference

3GPP TS 25.331 clause 8.1. 2.

#### 8.1.1.4.3 Test purpose

To confirm that the UE checks the new value tag of the master information block and reads the updated SYSTEM INFORMATION BLOCK messages after it receives a PAGING TYPE 1 message which includes the IE "BCCH Modification Information".

#### 8.1.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108 with a CN UE identity, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The SS transmits a PAGING TYPE 1 message on the paging occasions assigned to the UE. The message shall include the IE "BCCH Modification Information" indicating the time when the first modified master information block is available. Before the starting time, SS continuously broadcast the original MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on the BCCH mapped to BCH transport channel. SS maintains this status until the SFN which corresponds to the modification time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE <u>3 and 45</u> messages. In the new SIB TYPE <u>3 and 45</u> messages, the IE "<u>Available Signature Cell Access Restriction</u>" is different when compared to the original SIB TYPE <u>3 and 45</u> messages. At the next-paging occasion, SS transmits a new PAGING TYPE 1 message. This message addresses the UE using its IMSI and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall consider the cell as barred and not respond to the PAGING TYPE 1 message respond with RRC CONNECTION REQUEST message. Then SS shall transmit RRC CONNECTION REJECT message to UE.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1		Void	
2	<b></b>	PAGING TYPE 1	SS transmits the message includes the IE "BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3	÷	MASTER INFORMATION BLOCK	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
	÷	SYSTEM INFORMATION BLOCK TYPE <del>3 and 4</del> 5	At the same time, SS starts to transmit the affected SIB TYPE <b>3</b> and TYPE <b>45</b> messages continuously. The IE " <u>Available</u> <u>Signature- Cell Access Restriction</u> " is changed from " <del>Not barred</del> <u>0000</u> <u>0000 1111 1111(B)</u> " to " <u>1111 1111</u> <u>0000 0000(B)Barred</u> ". SS starts to monitor the uplink RACH after approximately 4087 frames from step 2.
4	÷	PAGING TYPE 1	SS starts to transmit this message continuously on the PCCH at the correct paging occasion.
<u>5</u>	<u></u> ≯	RRC CONNECTION REQUEST	The UE shall not transmit an RRC CONNECTION REQUEST message.
6	←	RRC CONNECTION REJECT	

#### Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Not Present
BCCH modification info	
MIB Value Tag	2
BCCH Modification time	4088

# MASTER INFORMATION BLOCK (Step 3)

Information Element	Value/remark
MIB Value tag	2

# SYSTEM INFORMATION BLOCK TYPE 3 and 45 (Step 3)

Use the same message type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
- PRACH system information	
- PRACH info	
- CHOICE mode	FDD
- Available Signature	'1111 1111 0000 0000'B
- Cell Access Restriction	
Cell barred	Barred
Intra-frequency cell re-selection indicator	not allowed
	<del>10</del>
Cell Reserved for operator use	Not reserved
Cell Reservation Extension	Not reserved
Access Class Barred List	
Access Class Barred0	Barred
Access Class Barred1	Barred
Access Class Barred2	Barred
Access Class Barred3	Barred
Access Class Barred4	Barred
Access Class Barred5	Barred
Access Class Barred6	Barred
Access Class Barred7	Barred
Access Class Barred8	Barred
Access Class Barred9	Barred
Access Class Barred10	Barred
Access Class Barred11	Barred
Access Class Barred12	Barred
Access Class Barred13	Barred
Access Class Barred14	Barred
Access Class Barred15	Barred

#### PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	CN identity
- Paging Cause	Terminating Call with one of the supported services
- CN Domain Identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI value stored
	in the TEST USIM card
BCCH modification info	Not Present

**RRC CONNECTION REJECT** 

Use the same message type found in clause Annex A.

#### 8.1.1.4.5 Test requirement

After step 4 the UE shall not-transmit RRC CONNECTION REQUEST messages in response to the PAGING TYPE 1 messages sent in step 4.

## 8.1.1.5 Paging for Notification in connected mode (CELL_PCH)

8.1.1.5.1 Definition

#### 8.1.1.5.2 Conformance requirement

When a system information block on the BCCH is modified, the message PAGING TYPE 1 can be sent on the PCCH to inform UE in the CELL_PCH state about this change. This message includes the IE "BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently while in CELL_PCH state.

#### Reference

3GPP TS 25.331 clause 8.1. 2.

#### 8.1.1.5.3 Test purpose

To confirm that the UE, checks the new value tag of the master information block, and read the SYSTEM INFORMATION messages after it receives a PAGING TYPE 1 message which includes the IE "BCCH Modification Information".

8.1.1.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_PCH state (state 6-12) as specified in clause 7.4 of TS 34.108 with valid a U-RNTI assigned to it.

#### **Test Procedure**

The SS transmits a PAGING TYPE 1 message on the paging occasions assigned to the UE. The message shall include the IE "BCCH Modification Information" indicating the time when the first modified master information block is available. Before the starting time, SS continuously broadcast the original MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on the BCCH mapped to BCH transport channel. SS maintains this status until the SFN, which corresponds to the modification time, is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE <u>3 and 45</u> messages. In the new SIB TYPE <u>3 and 45</u> messages, the IE "Cell Access RestrictionAvailable Signature" is different when compared to the original SIB TYPE <u>3 and 45</u> messages. At the next-paging occasion, SS transmits a new PAGING TYPE 1 message.

This message addresses the UE using its <u>IMSI-U-RNTI</u> and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall consider the cell as barred and not respond to the PAGING TYPE 1-message respond with a CELL UPDATE message and set IE "cell update cause" to "paging response".

Step	Direction	Message	Comment
	UE SS		
1		Void	
2	÷	PAGING TYPE 1	SS transmits the paging message which comprises IE "BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3	÷	MASTER INFORMATION BLOCK	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
	÷	SYSTEM INFORMATION BLOCK TYPE <del>3 and 4</del> 5	At the same time, SS starts to transmit the affected SIB TYPE <b>3</b> and 45 continuously. The value of IE " <u>Available Signature Cell</u> <u>Access Restriction</u> " is changed from " <del>Not barred</del> <u>0000 0000 1111</u> <u>1111(B)</u> " to " <u>1111 1111 0000</u> <u>0000(B)</u> Barred". SS starts to monitor the uplink RACH after approximately 4087
4	<i></i>	PAGING TYPE 1	SFN from step 2. SS transmits this message continuously on the PCCH at the correct paging occasion.
<u>5</u>	<u>→</u>	CELL UPDATE	The UE shall not transmit an RRC CONNECTION REQUEST
			message.
6	I <del>(</del>		

#### Expected sequence

#### Specific Message Contents

#### PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	2
- MIB Value Tag	4088
<ul> <li>BCCH Modification time</li> </ul>	

#### MASTER INFORMATION BLOCK (Step 3) and

#### SYSTEM INFORMATION BLOCK TYPE 3 and 45 (Step 3)

The content of these messages is the same in the message used in step 3 specified in clause 8.1.1.4.4.

#### PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
<ul> <li>CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

#### CELL UPDATE (Step 5)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
<u>U-RNTI</u>	Checked to see if it is set to the same values as in step
	<u>4</u>
- SRNC identity	
<u> </u>	
Cell update cause	Paging response

#### CELL UPDATE CONFIRM (Step 6)

Use the same message type found in clause Annex A.

#### 8.1.1.5.5 Test requirement

After step 4 the UE shall not transmit any a CELL UPDATE message with IE "cell update cause" set to "paging response"s.

#### 8.1.1.6 Paging for Notification in connected mode (URA_PCH)

8.1.1.6.1 Definition

#### 8.1.1.6.2 Conformance requirement

When a system information block on the BCCH is modified, the UTRAN can send a PAGING TYPE 1 message on the PCCH to inform UE about the changes while the UE is in the URA_PCH state. This message includes the IE "BCCH Modification Information". When receiving this message in URA_PCH state, the UE shall read the relevant MIB and/or SIB(s).

#### Reference

3GPP TS 25.331 clause 8.1. 2.

#### 8.1.1.6.3 Test purpose

To confirm that the UE checks the included new value tag of the master information block and reads the relevant SYSTEM INFORMATION block(s) after it receives a PAGING TYPE 1 message which includes the IE "BCCH Modification Information".

#### 8.1.1.6.4 Method of test

#### **Initial Condition**

System Simulator: 1 cell

UE: URA_PCH state (state 6-13) as specified in clause 7.4 of TS 34.108 with a valid U-RNTI assigned.

#### Test Procedure

The SS transmits a PAGING TYPE 1 message on the paging occasions assigned to the UE. The message shall include the IE "BCCH Modification Information" indicating the time when the first modified master information block is available. Before the starting time, SS continuously broadcast the original MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on the BCCH mapped to BCH transport channel. SS maintains this status until the SFN which corresponds to the modification time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE <u>3 and 45</u> messages. In the new SIB TYPE <u>3 and 45</u> messages, the IE "<u>Available SignatureCell Access Restriction</u>" is different when compared to the original SIB TYPE <u>3 and 45</u> messages. At the next paging occasion, SS transmits a new PAGING TYPE 1 message. This message addresses the UE using its <u>U-RNTIMSF</u> and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall consider the cell as barred and not respond with a CELL UPDATE message and set IE "cell update cause" to "paging response" to the PAGING TYPE 1 message.
Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2			PAGING TYPE 1	SS transmits the paging message which comprises IE "BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3	•	<del>(</del>	MASTER INFORMATION BLOCK	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting.
	•	÷	SYSTEM INFORMATION BLOCK TYPE <del>3 and 4</del> 5	At the same time, SS starts to transmit the affected SIB TYPE <u>35</u> and TYPE <u>4</u> messages continuously. The value of IE " <u>Available SignatureCell Access</u> <u>Restriction</u> " is changed from " <u>0000</u> <u>0000 1111 1111(B)Not barred</u> " to " <u>1111 1111 0000 0000(B)Barred</u> ". SS starts to monitor the uplink RACH after approximately 4087 SFN from step 2.
4	•	<del>(</del>	PAGING TYPE 1	SS transmits this message continuously on the PCCH at the correct occasion.
				The UE shall not transmit an RRC CONNECTION REQUEST message.
<u>5</u>	<u> </u>		CELL UPDATE	
<u>6</u>	<u>←</u>		CELL UPDATE CONFIRM	

# Specific Message Contents

# PAGING TYPE 1 (Step 2)

Information Element	Value/remark	
Message Type		
Paging record list	Only 1 entry	
Paging record		
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity	
- U-RNTI	Equal to the U-RNTI assigned earlier.	
- SRNC Identity		
- S-RNTI		
<ul> <li>- CN originated page to connected mode UE</li> </ul>	Not Present	
BCCH modification info	2	
- MIB Value Tag	4088	
- BCCH Modification time		

#### MASTER INFORMATION BLOCK (Step 3) and

## SYSTEM INFORMATION BLOCK TYPE 3 and 45 (Step 3)

The content of these messages is the same in the message used in step 3 specified in clause 8.1.1.4.4.

#### PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
<ul> <li>CN originated page to connected mode UE</li> </ul>	Not Present
BCCH modification info	Not Present

# CELL UPDATE (Step 5)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
<u>U-RNTI</u>	Checked to see if it is set to the same values as in step
	<u>4</u>
- SRNC identity	
<u> </u>	
Cell update cause	Paging response

## CELL UPDATE CONFIRM (Step 6)

Use the same message type found in clause Annex A.

# 8.1.1.6.5 Test requirement

After step 4, the UE shall not-transmit any a CELL UPDATE messages with IE "cell update cause" set to "paging response".

# 8.1.1.7 Paging for Connection in connected mode (CELL_DCH)

- 8.1.1.7.1 Definition
- 8.1.1.7.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UE in CELL_DCH state using the dedicated control channel (DCCH). The UE listens to it and responds to this message accordingly.

When UE receives an invalid PAGING TYPE 2 message, UE shall perform procedure specific error handling.

#### Reference

3GPP TS 25.331 clause 8.1.11.

#### 8.1.1.7.3 Test purpose

To confirm that the UE responds to a PAGING TYPE 2 message which includes IE "Paging Record Type Identifier" for the UE.

To confirm that the UE responds with a RRC STATUS message after it received an invalid PAGING TYPE 2 message.

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#### 8.1.1.7.4 Method of test

#### Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE, after executing a location registration or attach procedure followed by the release of the TMSI of P-TMSI allocated.

#### **Test Procedure**

The SS transmits an invalid PAGING TYPE 2 message. UE shall respond by transmitting a RRC STATUS message on the DCCH using RLC-AM mode. Finally, SS transmits a PAGING TYPE 2 message, which includes a matched Paging Record Type Identifier. Then the UE shall responds to this message by the transmission of an upper layer message.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2	←		PAGING TYPE 2	See message content.
3	$\rightarrow$		RRC STATUS	The UE shall respond by reporting
				the protocol error to the SS.
4	+ +		PAGING TYPE 2	SS pages the UE with a matched
				identifier and with a valid "paging
				cause" IE.
5	-	>	UPLINK DIRECT TRANSFER	The UE shall respond to the paging
				message sent in step 3.

#### Specific Message Contents

#### PAGING TYPE 2 (Step 2)

Information Element	Value/remark	
All IEs	Not Present	

#### RRC STATUS (Step 3)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark	
Protocol error information	Checked to see if set to "ASN.1 violation or encoding	
	error"	

# PAGING TYPE 2 (Step 4)

Use the same message type found in Annex A, with the following exception.

Information Element	Values/Remarks	
Paging cause	Terminating Call supported by the UE	
CN domain identity	Domain supported by the UE	
Paging record type identifier	Set to "IMSI (GSM-MAP)" for UEs supporting GSM-MAP	
	core network type or "IMSI (DS-41)" for UEs supporting	
	ANSI-41 core network type.	

#### **UPLINK DIRECT TRANSFER (Step 5)**

Only the message type IE for this message is checked.

#### 8.1.1.7.5 Test requirement

After step 2 the UE shall respond to the paging message by transmitting RRC STATUS on the DCCH, stating the protocol error as "ASN.1 violation or encoding error".

After step 4 the UE shall respond to the paging message by transmitting an UPLINK DIRECT TRANSFER message on the uplink DCCH.

# 8.1.1.8 Paging for Connection in connected mode (CELL_FACH)

8.1.1.8.1 Definition

#### 8.1.1.8.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UE in CELL_FACH state using the dedicated control channel (DCCH). The UE shall listen to it and responds to this message accordingly.

#### Reference

3GPP TS 25.331 clause 8.1.11.

#### 8.1.1.8.3 Test purpose

To confirm that the UE responds to a PAGING TYPE 2 message, which includes a matching value for IE "Paging Record Type Identifier".

8.1.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108.

#### **Test Procedure**

The SS transmits a PAGING TYPE 2 message. Then the UE shall respond by transmitting an upper layer message to answer this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	
2	•	÷	PAGING TYPE 2	The SS transmits the message includes a matched identifier.
3		<b>&gt;</b>	UPLINK DIRECT TRANSFER	The UE responds by sending an upper layer message.

#### Specific Message Content

#### PAGING TYPE 2 (Step 1)

Use the same message content as in step 1 from 8.1.1.7.4.

#### UPLINK DIRECT TRANSFER (Step 2)

Only the message type IE for this message is checked.

#### 8.1.1.8.5 Test requirement

After step 1 the UE shall respond to the PAGING TYPE 2 message by transmitting an UPLINK DIRECT TRANSFER message on the uplink DCCH.

# 8.1.2 RRC Connection Establishment

# 8.1.2.1 RRC Connection Establishment in CELL_DCH state: Success

8.1.2.1.1 Definition

#### 8.1.2.1.2 Conformance requirement

- The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be transmitted on the uplink CCCH.
- 2. After the UE receives an RRC CONNECTION SETUP message which includes the same value of the IE "initial UE identity", radio resource parameters (i.e. Signalling radio bearers and multiplexing info) and U-RNTI, UE then configures the layer 2 and layer 1 so as to support the DCCH according to the radio resource parameters specified. The procedure successfully ends when the network receives an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.1.3 Test purpose

To confirm that the UE leaves the Idle Mode and correctly establishes signalling radio bearers on the DCCH.

#### 8.1.2.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call. After SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE. SS then transmits an RRC CONNECTION SETUP message containing an IE "Initial UE Identity" that does not match the IE "Initial UE Identity" in the most recent RRC CONNECTION REQUEST message sent by the UE. UE receives the RRC CONNECTION SETUP message before timer T300 expires but discards it due to a IE "Initial UE Identity" mismatch. UE shall wait for timer T300 to time out before re-transmitting a RRC CONNECTION REQUEST message to the SS. SS again assigns the necessary radio resources and U-RNTI. SS then transmits a RRC CONNECTION SETUP message containing an IE "Initial UE Identity" that matches the IE "Initial UE Identity" in the most recent RRC CONNECTION REQUEST sent by the UE. SS then waits for the UE to transmit an RRC CONNECTION REQUEST sent by the DCCH.

#### Expected sequence

**Release 4** 

Step	Direction		Message	Comment
	UE	SS		
1	-	→	RRC CONNECTION REQUEST	By outgoing call operation
2	÷		RRC CONNECTION SETUP	This message is not addressed to the UE.
3	-	<b>&gt;</b>	RRC CONNECTION REQUEST	UE shall re-transmit the request message again after a time out of T300 from step 1.
4	•	÷	RRC CONNECTION SETUP	
5				The UE configures the layer 2 and layer 1.
6	$\rightarrow$		RRC CONNECTION SETUP COMPLETE	

#### Specific Message Content

#### **RRC CONNECTION SETUP (Step 2)**

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark	
Initial UE Identity	Set to the same type as in the RRC CONNECTION	
CHOICE UE id type	REQUEST message but with a different value	
IMSI	IMSI	
	Set to an arbitrary octet string of length 7 which different	
	from the IMSI value stored in the TEST USIM card.	

#### 8.1.2.1.5 Test requirement

After step 2 the UE shall re-transmit the RRC CONNECTION REQUEST message again in order to continue the RRC connection establishment procedure.

After step 6 the UE shall establish an RRC connection and continue the procedure of the outgoing call on the DCCH.

# 8.1.2.2 RRC Connection Establishment: Success after T300 timeout

8.1.2.2.1 Definition

#### 8.1.2.2.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode. The UE shall transmit an RRC CONNECTION REQUEST message which includes the IE "Initial UE identity". This message shall be sent on the uplink CCCH.

When there are more than one PRACHs available, the UE shall select one PRACH randomly and transmit an RRC CONNECTION REQUEST message by use of selected PRACH.

2. In the case of a failure to establish the RRC connection at the expiry of timer T300, the UE retries to establish the RRC connection until V300 is greater than N300

Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.2.3 Test purpose

To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 after the expiry of timer T300 when the SS transmits no response for an RRC CONNECTION REQUEST message.

8.1.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

Before the test starts, SYSTEM INFORMATION BLOCK TYPE 5 message is modified and this modification is notified to the UE. An internal counter K in SS is initialized to a value = 0. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by use of selected PRACH from the available PRACH No.1 and PRACH No.2, after the operator attempts to make an outgoing call. SS ignores this message, increments K every time such a message is received and waits for T300 timer to expire. This cycle is repeated until K reaches N300. When K is equal to N300, the SS transmits the RRC CONNECTION SETUP message specified in step 6 to the UE. The UE shall send another RRC CONNECTION REQUEST message on the uplink CCCH. SS replies with a valid RRC CONNECTION SETUP message. The UE shall then acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE message on uplink DCCH.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	PAGING TYPE 1	SS transmits the paging message which comprises IE "BCCH Modification Information", with the "Value Tag" different from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
1a	÷	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 5	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 5 messages.
2			SS initializes counter K to 0. Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
3	$\rightarrow$	RRC CONNECTION REQUEST	
4			SS checks to see if K is equal to N300. If so, goes to step 6. Else, continues to execute step 5.
5			SS increments K. The next step is step 3.
6	÷	RRC CONNECTION SETUP	Use an invalid message in ASN.1.
7	$\rightarrow$	RRC CONNECTION REQUEST	
8	÷	RRC CONNECTION SETUP	This is a legal message. See the clause 9 in TS 34.108 on default message content for RRC.
9			The UE configures the layer 1 and layer 2.
10	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	

# Specific Message Contents

PAGING TYPE 1 (Step 1a)

Information Element	Value/remark
Message Type	
Paging record list	Only 1 entry
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	Equal to the U-RNTI assigned earlier.
- SRNC Identity	
- S-RNTI	
BCCH modification info	
- MIB Value Tag	2
- BCCH Modification time	4088

# SYSTEM INFORMATION TYPE 5 (Step 1) - (FDD)

<ul> <li>PRACH system information</li> </ul>	2PRACHs
- PRACH info (PRACH No.1)	
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SF	64
- Preamble scrambling code number	
- Puncturing Limit	100
- Available Sub Channel number	'1111 1111 1111'B
- Transport Channel Identity	15
	10
CHOICE Transport channel type	Common transport channels
Dynamic Transport format information	
	160
- RLU SIZE	100
- Number of Transport blocks	
	FDD
- CHOICE Logical Channel List	ALL
- RLC size	360
- Number of TB and TTI List	
- Number of Transport blocks	1
- CHOICE Mode	FDD
- CHOICE Logical Channel List	ALL
<ul> <li>Semi-static Transport Format information</li> </ul>	
<ul> <li>Transmission time interval</li> </ul>	20 ms
<ul> <li>Type of channel coding</li> </ul>	Convolutional
- Coding Rate	1/2
<ul> <li>Rate matching attribute</li> </ul>	150
- CRC size	16
- RACH TFCS	
- Normal	
- TFCI Field 1 information	
<ul> <li>CHOICE TFCS representation</li> </ul>	Complete
- TFCS addition information	
- CHOICE CTFC Size	2 bit
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Computed Gain Factor
- Power offset Pp-m	0 <mark>-5-</mark> dB
- CTFC information	1
- Reference TFC ID	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	11 <del>10</del>
- Gain factor ßd	15
- Reference TEC ID	Not Present()
- Power offset Pp-m	<u>-50dB</u>
- PRACH partitioning	
- Access Service Class	

- ASC Setting - CHOICE mode	FDD
<ul> <li>Available signature Start Index</li> <li>Available signature End Index</li> </ul>	0 (ASC#0) 7 (ASC#0)
- Assigned Sub-channel Number	'1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#1) 7 (ASC#1) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#2) 7 (ASC#2) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#3) 7 (ASC#3) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#4) 7 (ASC#4) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#5) 7 (ASC#5) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#6) 7 (ASC#6) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#7) 7 (ASC#7) '1111'B
<ul> <li>Persistence scaling factor</li> <li>ACto-ASC mapping table</li> </ul>	0.9 (for ASC#2) 0.9 (for ASC#3) 0.9 (for ASC#4) 0.9 (for ASC#5) 0.9 (for ASC#6) 0.9 (for ASC#7)
<ul> <li>AC-to-ASC mapping</li> <li>CHOICE mode</li> </ul>	6 (AC0-9) 5 (AC10) 4 (AC11) 3 (AC12) 2 (AC13) 1 (AC14) 0 (AC15) FDD
- Primary CPICH DL TX power - Constant value	31 –10
<ul> <li>PRACH power offset</li> <li>Power Ramp Step</li> <li>Preamble Retrans Max</li> </ul>	3dB 2
<ul> <li>RACH transmission parameters</li> <li>Mmax</li> <li>NB01min</li> <li>NB01max</li> </ul>	2 3 slot 10 slot

	I
- AICH into Channelisation code	2
- STTD indicator	
- AICH transmission timing	0
- PRACH info (PRACH No 2)	8
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
- Available SE	64
- Preamble scrambling code number	1
- Puncturing Limit	100
- Available Sub Channel number	'1111 1111 1111'B
- Transport Channel Identity	15
- RACH TFS	-
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	
<ul> <li>Number of Transport blocks</li> </ul>	1
- CHOICE Mode	FDD
<ul> <li>CHOICE Logical Channel List</li> </ul>	ALL
- RLC size	360
<ul> <li>Number of TB and TTI List</li> </ul>	
<ul> <li>Number of Transport blocks</li> </ul>	1
- CHOICE Mode	FDD
<ul> <li>CHOICE Logical Channel List</li> </ul>	ALL
<ul> <li>Semi-static Transport Format information</li> </ul>	
<ul> <li>Transmission time interval</li> </ul>	20 ms
<ul> <li>Type of channel coding</li> </ul>	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	
- Normal	
- IFCI Field 1 information	O a market a
- CHOICE IFCS representation	Complete
	2 hit
- CHOICE CIFC SIZE	
- CTFC Information	0
- CHOICE Gain Eactors	Computed Gain Eactor
- Dower offset Pp-m	-50 dB
- CTEC information	1
- Reference TEC ID	0
- Power offset information	<u> </u>
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor Rc	<del>10</del> 11
- Gain factor ßd	15
- Reference TFC ID	Not Present0
- Power offset Pp-m	- <del>5</del> 0dB
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	FDD
<ul> <li>Available signature Start Index</li> </ul>	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
Assigned Sub shannel Number	'1111'D
	ППБ
- ASC Setting	
- CHOICE mode	FDD
<ul> <li>Available signature Start Index</li> </ul>	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
<ul> <li>Assigned Sub-channel Number</li> </ul>	'1111'B
- ASC Setting	
- CHOICE mode	FDD
- Available signature Start Index	0 (ASC#2)
<ul> <li>Available signature End Index</li> </ul>	7 (ASC#2)
<ul> <li>Assigned Sub-channel Number</li> </ul>	'1111'B
- ASC Setting	
-	-

- CHOICE mode - Available signature Start Index - Available signature End Index - Assigned Sub-channel Number	FDD 0 (ASC#3) 7 (ASC#3) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#4) 7 (ASC#4) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#5) 7 (ASC#5) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#6) 7 (ASC#6) '1111'B
<ul> <li>ASC Setting</li> <li>CHOICE mode</li> <li>Available signature Start Index</li> <li>Available signature End Index</li> <li>Assigned Sub-channel Number</li> </ul>	FDD 0 (ASC#7) 7 (ASC#7) '1111'B
<ul> <li>Persistence scaling factor</li> <li>Ac-to-ASC mapping table</li> </ul>	0.9 (for ASC#2) 0.9 (for ASC#3) 0.9 (for ASC#4) 0.9 (for ASC#5) 0.9 (for ASC#6) 0.9 (for ASC#7)
<ul> <li>AC-to-ASC mapping</li> </ul>	6 (AC0-9) 5 (AC10) 4 (AC11) 3 (AC12) 2 (AC13)
- AC-to-ASC mapping - AC-to-ASC mapping CHOICE mode - Primary CPICH DL TX power - Constant value - PRACH power offset	1 (AC14) 0 (AC15) FDD 31 -10
<ul> <li>Power Ramp Step</li> <li>Preamble Retrans Max</li> <li>RACH transmission parameters</li> <li>Mmax</li> <li>NB01min</li> <li>NB01max</li> </ul>	3dB 2 2 3 slot 10 slot
<ul> <li>AICH info</li> <li>Channelisation code</li> <li>STTD indicator</li> <li>AICH transmission timing</li> </ul>	4 FALSE 0

# SYSTEM INFORMATION TYPE 5 (Step 1) – 3.84 Mcps TDD

- PRACH system information	2PRACHs
- CHOICE mode	מחד
- CHOICE TIDD option	3 84 Mcps TDD
- Timeslot Number	14
- PRACH Channelisation Code	
- CHOICE SF	8
- Channelisation Code List	- //
- Channelisation Code	8/1
- Channelisation Code	8/2
- Channelisation Code	8/4
- PRACH Midamble	Direct
-PNBSCH allocation	Not Present
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RLC size	168
- Number of TB and TTI List	Not Decout
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE Logical Channel List	ALL
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	IDD 2.84 Maria TDD
- CHOICE TDD option	3.84 MCPS TDD (11110000'B (ASC#0)
	Ci=a1
- ASC Setting	51201
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE IDD option	3.84 Mcps IDD
- Available STNC_OL codes indices	Size1
- ASC Setting	01201
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Selling - CHOICE mode	חחד
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- UNULE IDD Option	3.84 MCps IDD (11110000'B (ASC#5)
- Available STNC_OL Codes Indices	Size1
- ASC Setting	
- CHOICE mode	TDD

- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'11110000'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC UL codes indices	'11110000'B (ASC#7)
- CHOICE subchannel size	Size1
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9  (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
<ul> <li>AC-to-ASC mapping</li> </ul>	0 (AC15)
- CHOICE mode	מסד
- PRACH info (PRACH No.2)	
- CHOICE mode	מסד
- CHOICE TDD option	3 84 Mcps TDD
- Timeslot Number	14
	т. Т
- PRACH Channelisation Code	
- CHOICE SF	8
- Channelisation Code List	
- Channelisation Code	8/5 where i denotes an unassigned code
- Channelisation Code	8/6 where i denotes an unassigned code
- Channelisation Code	8/7 where i denotes an unassigned code
- Channelisation Code	8/8 where i denotes an unassigned code
- PRACH Midamble	Direct
-PNBSCH allocation	Not Present
- RACH IFS CHOICE Transport shannel type	Common transport channels
- CHOICE Transport format information	Common transport channels
	100
- RLC Size	168
- Number of TB and TTI List	Net Dresset
- Transport Time Interval	Not Present
- Number of Transport Blocks	
	ALL
- Semi-static Transport Format information	40
- Transmission time interval	10 ms
- Type of channel coding	Convolutional
- Coding Rate	1/2
- Rate matching attribute	150
	16
- RACH IFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	
- CHOICE IDD option	
- Available SYNC_UL codes indices	'00001111'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	
	100

<ul> <li>Available SYNC_UL codes indices</li> <li>CHOICE subchannel size</li> </ul>	'00001111'B (ASC#2) Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#5)
<ul> <li>CHOICE subchannel size</li> </ul>	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#6)
<ul> <li>CHOICE subchannel size</li> </ul>	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#7)
- CHOICE subchannel size	Size1
<ul> <li>Persistence scaling factor</li> </ul>	
<ul> <li>Persistence scaling factor</li> </ul>	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (ACU-9)
- AC-to-ASC mapping	5 (ACTU)
- AC-to-ASC mapping	4 (ACTT)
- AC-IO-ASC mapping	3 (AC12)
- AC-IO-ASC mapping	2 (ACT3) 1 (ACT4)
AC to ASC mapping	1 (AC14) 0 (AC15)
CHOICE mode	
	עטו

SYSTEM INFORMATION TYPE 5 (Step 1) - 1.28 Mcps TDD

DDACL average information	
- PRACH System Information	ZERAUTS
- PRACH INTO (PRACH No.1)	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- SYNC_UL info	
<ul> <li>SYNC_UL codes bitmap</li> </ul>	'11110000'B
	10
- Power Ramping Step	3
- Max SYNC III Transmissions	8
	32
- PRACH Definition	52
Timeelet Number	
- Timesiot Number	
- CHOICE IDD option	1.28 Mcps TDD
- Timeslot number	1
- PRACH Channelisation Code	
<ul> <li>Channelisation Code List</li> </ul>	
<ul> <li>Channelisation Code</li> </ul>	8/1
<ul> <li>Midamble shift and burst type</li> </ul>	
- CHOICE TDD option	1.28 Mcps TDD
<ul> <li>Midamble Allocation Mode</li> </ul>	Default
- Midamble Configuration	8
- Midamble Shift	Not Present
- FPACH info	
- Timeslot number	6
- Channelisation code	16/16
Midamble Shift and burst type	10/10
- Mildanible Shint and burst type	1.28 Mana TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	16
- Midamble Shift	Not Present
- WT	4
DNRSCH allocation	Not Procent
- Transport Channel Identity	15
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	
- RI C size	168
- Number of TB and TTLL ist	
- Transport Time Interval	Not Present
<ul> <li>Number of Transport Blocks</li> </ul>	1
<ul> <li>CHOICE Logical Channel List</li> </ul>	ALL
<ul> <li>Semi-static Transport Format information</li> </ul>	
- Transmission time interval	10 ms
Type of channel coding	Convolutional
- Type of charmer couling	
- Cooling Rate	/2
- Rate matching attribute	150
- CRC size	16
- RACH TFCS	Not Present
- PRACH partitioning	
- Access Service Class	
- ASC Setting	
- CHOICE mode	חחד
CHOICE TOD option	
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#0)
<ul> <li>CHOICE subchannel size</li> </ul>	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE mode - CHOICE TDD option	TDD 1.28 Mcps TDD
- CHOICE mode - CHOICE TDD option	TDD 1.28 Mcps TDD
- CHOICE mode - CHOICE TDD option - Available SYNC_UL codes indices	TDD 1.28 Mcps TDD '11110000'B (ASC#1)
- CHOICE mode - CHOICE TDD option - Available SYNC_UL codes indices - CHOICE subchannel size	TDD 1.28 Mcps TDD '11110000'B (ASC#1) Size1
- CHOICE mode - CHOICE TDD option - Available SYNC_UL codes indices - CHOICE subchannel size - ASC Setting	TDD 1.28 Mcps TDD '11110000'B (ASC#1) Size1
- CHOICE mode - CHOICE TDD option - Available SYNC_UL codes indices - CHOICE subchannel size - ASC Setting - CHOICE mode	TDD 1.28 Mcps TDD '11110000'B (ASC#1) Size1 TDD
- CHOICE mode - CHOICE TDD option - Available SYNC_UL codes indices - CHOICE subchannel size - ASC Setting - CHOICE mode - CHOICE TDD option	TDD 1.28 Mcps TDD '11110000'B (ASC#1) Size1 TDD 1.28 Mcps TDD

- Available SYNC_UL codes indices - CHOICE subchannel size	ʻ11110000'B (ASC#2) Size1
- ASC Setting	700
- CHOICE mode	IDD
- CHOICE TDD option	1.28 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	חחד
- CHOICE TDD ontion	1 28 Mons TDD
Available SVNC III. and an indiana	(11110000'P (ASC#4)
- Available STNC_OL codes indices	Size1
	51201
- ASC Setting	TOD
- CHOICE mode	
- CHOICE TDD option	1.28 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#5)
<ul> <li>CHOICE subchannel size</li> </ul>	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC, LIL codes indices	(11110000'B (ASC#6)
- CHOICE subchannel size	Size1
- ASC Setting	01201
- AGC Setting	
- CHOICE IDD option	1.28 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'11110000'B (ASC#7)
- CHOICE subchannel size	Size1
<ul> <li>Persistence scaling factor</li> </ul>	
<ul> <li>Persistence scaling factor</li> </ul>	0.9 (for ASC#2)
<ul> <li>Persistence scaling factor</li> </ul>	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
$-\Delta C_{-to-}\Delta SC$ mapping table	
AC to ASC mapping table	
- AC-to-ASC mapping	6 (ACU-9)
	5 (ACTU)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
<ul> <li>AC-to-ASC mapping</li> </ul>	0 (AC15)
- CHOICE mode	TDD
- PRACH info (PRACH No.2)	
- CHOICE mode	TDD
- CHOICE IDD option	1.28 MCps TDD
- SYNC UL info	
- SYNC UL codes bitmap	'11110000'B
	10
- Power Ramping Step	1
- Max SVNC III Transmissions	8
	8
- Mmax	32
- PRACH Definition	
- Timeslot Number	
- CHOICE TDD option	1.28 Mcps TDD
- Timeslot number	1
DRACH Channelisation Code	
- FRACH Channelisation Code	
- Channelisation Code List	<i>8/</i> 9
- Unannelisation Code	δ/2
- Midamble shift and burst type	/ aa 1/
- CHOICE TDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midamble Configuration	8
- Midamble Shift	Not Present
- FPACH info	
	An available down link timestat

- Channelisation code	16/15
- Midamble Shift and burst type	
- CHOICE IDD option	1.28 Mcps TDD
- Midamble Allocation Mode	Default
- Midample Configuration	16
- Midamble Shift - WT	Not Present
- PNBSCH allocation	A Not Present
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport format information	·
- RI C size	168
- Number of TB and TTI List	
- Transport Time Interval	Not Present
- Number of Transport Blocks	1
- CHOICE LOgical Channel List Somi static Transport Format information	ALL
Transmission time interval	10 mg
- Transmission line interval	Convolutional
Coding Pate	
- Coully Rale Pate matching attribute	72 150
	16
	Not Present
- PRACH partitioning	Not Flesent
- Access Service Class	
- ASC Setting	
- CHOICE mode	חחד
- CHOICE TDD option	1 28 Mons TDD
- Available SYNC 11 codes indices	(00001111)'B (ASC#0)
- CHOICE subchannel size	Size1
- ASC Setting	01201
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC UL codes indices	'00001111'B (ASC#1)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- Available SYNC_UL codes indices	'00001111'B (ASC#2)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#3)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
<ul> <li>Available SYNC_UL codes indices</li> </ul>	'00001111'B (ASC#4)
- CHOICE subchannel size	Size1
- ASC Setting	
- CHOICE mode	IDD
- CHOICE IDD option	1.28 Mcps IDD
- Available SYNC_UL codes indices	'00001111'B (ASC#5)
- CHOICE subchannel size	Size1
- ASC Setting	TOD
- CHOICE mode	
- CHOICE IDD option	
- Available SYNC_UL codes indices	000011111B (ASC#6)
- CHOICE subchannel size	Sizer
- AOU Setting	ססד
- VITULE TUU UPUUII - Available SVNC LU aadaa indiaaa	1.20 MUDS TUU 1000011111?P (ASC#7)
- AVAIIANE STING_UL COUES INDICES	9iza1
- ONOLE SUBURITIEN SIZE	
- Dersistence scaling factor	0.9 (for ASC#2)
	0.0 (101 / 00#2)

- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
<ul> <li>Persistence scaling factor</li> </ul>	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
<ul> <li>AC-to-ASC mapping</li> </ul>	0 (AC15)
- CHOICE mode	TDD

# **RRC CONNECTION SETUP (Step 6)**

Information Element	Value/remark
All IEs	Not Present

#### 8.1.2.2.5 Test requirement

After step 2 the UE shall select either PRACH No.1 or PRACH No.2 and transmit an RRC CONNECTION REQUEST message.

After step 6 the UE shall re-send another RRC CONNECTION REQUEST message.

After step 9 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection on the DCCH logical channel.

# 8.1.2.3 RRC Connection Establishment: Failure (V300 is greater than N300)

- 8.1.2.3.1 Definition
- 8.1.2.3.2 Conformance requirement
  - The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" on the uplink CCCH.
  - 2. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.3.3 Test purpose

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

#### 8.1.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

Before the test starts, SS initializes an internal counter K to 0. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation. SS shall not respond to any RRC CONNECTION REQUEST message, instead the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received.

#### Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1				SS initializes counter K to 0 and
				then prompts the operator to make
				an outgoing call.
2	-	<b>&gt;</b>	RRC CONNECTION REQUEST	
3				SS increments K by 1.
4				If K is greater than N300, goes to
				step 5 else proceed to step 2.
5				SS monitor the uplink CCCH for a
				time period enough for UE to goes
				back to idle state. The exact
				amount of time to wait shall be
				derived from TS related to cell
				selection. If any uplink
				transmission is detected, the test
				fails.

#### Specific Message Contents

None

#### 8.1.2.3.5 Test requirement

After step 5, counter K shall be equal to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 5.

# 8.1.2.4 RRC Connection Establishment: Reject ("wait time" is not equal to 0)

8.1.2.4.1 Definition

#### 8.1.2.4.2 Conformance requirement

- 1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be sent on the uplink CCCH.
- 2. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and neither IE "frequency info" nor IE "system info" is present, the UE shall wait for a period specified in the IE "wait time". Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.
- 3. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and either IE "frequency info" or IE "system info" is available in the message, the UE shall attempt to perform cell reselection using these information. Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.4.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" lapses, if the UE receives an RRC CONNECTION REJECT message which includes the IE "wait time" not set to 0.

To confirm that the UE performs a cell reselection when receiving an RRC CONNECTION REJECT message, containing relevant frequency information of the target cell to be re-selected.

#### 8.1.2.4.4 Method of test

#### Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active and suitable for camping, but cell 1 is transmitted using a larger power. Cell 1 and cell 2 are being transmitted from different 2 UARFCNs. The transmission power of cell 2 is 15 dB smaller than cell 1.

Parameter	Unit	Cell 1	Cell 2
UTRA RF		Ch. 1	Ch. 2
Channel			
Number			
CPICH Ec	dBm	-60	-75

Table 8.1.2.4

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation in cell 1. SS rejects the first request by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time. In this message, frequency information for cell 2 is available. SS then waits for RRC CONNECTION REQUEST message on the uplink CCCH of cell 2. SS will also monitor the uplink of cell 1 simultaneously to ensure that all transmission activities from cell 1 have ceased. When the UE has successfully camp onto cell 2, it shall send an RRC CONNECTION REQUEST with the same establishment cause as its previous attempt in cell 1. SS responds with an RRC CONNECTION REJECT message, indicating a non-zero "wait time" and omitting the IE "Redirection Info". The UE shall observe the wait time period indicated. After the wait time has elapsed, the UE shall re-transmit RRC CONNECTION REQUEST again. Finally, SS transmits an RRC CONNECTION SETUP message to establish an RRC connection with the UE, and the UE replies with an RRC CONNECTION SETUP COMPLETE message and enters CELL_DCH state.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	$\rightarrow$	RRC CONNECTION REQUEST	SS prompts the operator to make an outgoing call in cell 1.
2	÷	RRC CONNECTION REJECT	This message shall includes the IE "wait time" set to 15 seconds and IE "frequency info" set to the UARFCN of cell 2.
3			SS waits for a period of time sufficient for UE to reselect to cell 2. At the same time, it monitors the uplink of cell 1 to make sure that all transmissions have ceased.
4	<i>→</i>	RRC CONNECTION REQUEST	UE shall attempt to re-start an RRC connection establishment procedure in cell 2. The establishment cause shall remain unchanged.
5	÷	RRC CONNECTION REJECT	This message shall include the IE "wait time" set to 15 seconds, but with IE "Redirection Info" absent.
6	→	RRC CONNECTION REQUEST	SS waits until the duration specified in IE "wait time" has elapsed and then listens to the uplink CCCH for a second RRC CONNECTION REQUEST message.
7	÷	RRC CONNECTION SETUP	SS sends the message to UE to setup an RRC connection with the UE.
8			The UE shall configure the layer 2 and layer 1 in order to access the uplink and downlink DCCH assigned.
9	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	

# Specific Message Contents

# RRC CONNECTION REQUEST (Step 1)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the
	registered TMSI or P-TMSI Checked to see if it is set to
Establishment Cause	IMSI stored in the test TEST USIM card.
	Must be "Originating Call"

# RRC CONNECTION REJECT (Step 2) - FDD

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE mode	FDD
UARFCN uplink (Nu)	Not present Set to the UARFCN for uplink carrier of cell
UARFCN downlink (Nd)	2
	Not present Set to the UARFCN for uplink carrier of cell
	2

#### RRC CONNECTION REJECT (Step 2) - TDD

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
CHOICE Mode	TDD
UARFCN (Nt)	Set to a different UARFCN from the carrier of cell 1

#### RRC CONNECTION REQUEST (Step 4 and step 6)

Same requirement as in step 1.

#### RRC CONNECTION REJECT (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds

#### 8.1.2.4.5 Test requirement

After step 3 the UE shall have successfully re-selected to cell 2, using information transmitted in IE "frequency info" of RRC CONNECTION REJECT message. UE shall trigger the start of RRC connection establishment by transmitting RRC CONNECTION REQUEST. The establishment cause shall be similar to the message sent in step 1.

After step 5 the UE shall observe the period specified in IE "wait time" of an RRC CONNECTION REJECT message and not transmit an RRC CONNECTION REQUEST message in this period.

After step 7 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message to SS on uplink DCCH and then establish an RRC connection.

# 8.1.2.5 RRC Connection Establishment: Reject ("wait time" is not equal to 0 and V300 is greater than N300)

- 8.1.2.5.1 Definition
- 8.1.2.5.2 Conformance requirement

The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be sent on the uplink CCCH.

After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and neither IE "frequency info" nor IE "system info" is present, the UE shall wait for a period specified in the IE "wait time". Thereafter it re-transmits an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.5.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" elapses if the UE receives an RRC CONNECTION REJECT message which specifies a non-zero IE "wait time".

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

#### 8.1.2.5.4 Method of test

#### Initial Condition

#### System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

#### **Test Procedure**

Before the test starts, SS initializes an internal counter K to 0. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, triggered by an outgoing data call operation. SS rejects all requests by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time and the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received and the UE enters idle state.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			SS initializes counter K to 0 and then prompts the operator to make an outgoing data call.
2	$\rightarrow$	RRC CONNECTION REQUEST	Shall be sent on CCCH and contain the correct establishment cause.
3	÷	RRC CONNECTION REJECT	This message includes the IE "wait time" set to 15 seconds.
4			SS increments K by 1.
5			If K is greater than N300, goes to step 6. Else SS waits for 15 sec before proceeding to step 2.
6			SS monitor the uplink CCCH for a time period enough for UE to goes back to idle state. The exact amount of time to wait shall be derived from TS related to cell selection. If any uplink transmission is detected, the test fails.

#### Specific Message Contents

## **RRC CONNECTION REQUEST (Step 2)**

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the
	registered TMSI or P-TMSIChecked to see if it is set to
Establishment Cause	IMSI stored in the test TEST USIM card.
	Must be "Originating Call"

#### RRC CONNECTION REJECT (Step 3)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Wait time	15 seconds

#### 8.1.2.5.5 Test requirement

After step 6, counter K shall be equals to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 6.

# 8.1.2.6 RRC Connection Establishment: Reject ("wait time" is set to 0)

8.1.2.6.1 Definition

## 8.1.2.6.2 Conformance requirement

- 1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message on the uplink CCCH.
- 2. In the case of a failure to establish the RRC connection by the reception of a RRC CONNECTION REJECT message which contains IE "wait time" equals to 0, the UE shall go back to idle mode immediately.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.6.3 Test purpose

To confirm that the UE goes back to idle mode, if the SS transmits an RRC CONNECTION REJECT message which includes IE "wait time" set to 0. To confirm that the UE ignores an RRC CONNECT REJECT message not addressed to it. To confirm that the UE is capable of handling an erroneous RRC CONNECTION REJECT message correctly.

#### 8.1.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by making an outgoing call. After the SS receives this message, it transmits an RRC CONNECTION REJECT message which is not addressed to the UE. The UE shall disregard this message and proceed to re-transmit RRC CONNECTION REQUEST message upon T300 timer expiry. SS answers the second RRC CONNECTION REQUEST message by transmitting an invalid RRC CONNECTION REJECT message. The UE shall continue to send the third RRC CONNECTION REQUEST message upon expiry of T300 timer. Next, the SS sends a legal RRC CONNECTION REJECT message which includes IE "wait time" which is set to '0'. To confirm that the UE goes back to idle mode immediately after receiving the reject message, SS shall monitor the uplink CCCH for the next 60 seconds and verify that there is no further transmission in the uplink direction.

## Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	$\rightarrow$	RRC CONNECTION REQUEST	Test operator is prompted to make an out-going call,
2	÷	RRC CONNECTION REJECT	IE "Initial UE identity" contains an identity different from any of the UE identities available.
3	$\rightarrow$	RRC CONNECTION REQUEST	UE shall send this message after T300 expires.
4	←	RRC CONNECTION REJECT	
5	$\rightarrow$	RRC CONNECTION REQUEST	UE shall send this message after T300 expires.
6	÷	RRC CONNECTION REJECT	IE "wait time" is set to 0.
7			The UE goes back to idle mode.

## Specific Message Contents

# RRC CONNECTION REQUEST (Step 1, 3 and 5)

Information Element	Value/remark
Message Type	
Initial UE Identity	Same as the IMSI stored in the TEST USIM card, or the
	registered TMSI or P-TMSI Checked to see if it is set to
Establishment Cause	IMSI stored in the test TEST USIM card.
	Checked to see if set to one of the supported originating
Protocol Error Indicator	call types
Measured Results on RACH	Checked to see if set to "FALSE"
	Checked to see if it is absent

# RRC CONNECTION REJECT (Step 2)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Initial UE Identity	Set to the same type as in RRC CONNECTION
IMSI	REQUEST message (step 1) but with a different value.
	Set to an arbitrary octet string of length 7 bytes, which is
	different from the IMSI stored in TEST USIM.

#### **RRC CONNECTION REJECT (Step 4)**

Information Element	Value/remark
All IEs	Not Present

#### **RRC CONNECTION REJECT (Step 6)**

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Initial UE Identity	Same as the type and value defined in RRC
IMSI	CONNECTION REQUEST message (step 5)
	Set to the identical octet string as the IMSI stored in the
Reject Cause	TEST USIM card.
Wait time	Congestion
	0 second

#### 8.1.2.6.5 Test requirement

After step 2 the UE shall transmit an RRC CONNECTION REQUEST message on uplink CCCH upon expiry of T300 timer.

After step 4 the UE shall re-transmit an RRC CONNECTION REQUEST message on the uplink CCCH upon expiry of T300 timer.

After step 6 the UE shall stop sending an RRC CONNECTION REQUEST message, go back to idle mode immediately and not transmit in the uplink direction again.

# 8.1.2.7 RRC Connection Establishment in CELL_FACH state: Success

## 8.1.2.7.1 Definition

#### 8.1.2.7.2 Conformance requirement

During the RRC connection establishment, the UTRAN might assign common physical resource to the UE using an RRC CONNECTION SETUP message. When no information about the physical channels accessible is available from the message, the UE shall utilize the PRACH and S-CCPCH information transmitted on the BCCH and then enter CELL_FACH state. Subsequently, the UE shall establish the required signalling radio bearers with the UTRAN using common physical resources.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.7.3 Test Purpose

To confirm that the UE is able to enter CELL_FACH state and setup signalling radio bearers using common physical channels.

8.1.2.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call. After the SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE, and then transmits an RRC CONNECTION SETUP message to the UE within timer T300. SS then waits for the UE to transmit an RRC CONNECTION SETUP COMPLETE message on the DCCH.

# Expected sequence

Step	Direction		Direction Message	Comment	
_	UE	SS	]		
1		<i>→</i>	RRC CONNECTION REQUEST	Test operator is requested to make an outgoing call. The UE shall transmit this message, indicating the correct establishment cause.	
2		÷	RRC CONNECTION SETUP	SS omits both IE "Uplink DPCH Info" and IE "Downlink DPCH Info" from the message.	
3				The UE shall configure the layer 2 and layer 1.	
4		$\rightarrow$	RRC CONNECTION SETUP COMPLETE	UE shall send this message on the DCCH, carried by the assigned PRACH resources.	

#### Specific Message Content

#### **RRC CONNECTION REQUEST**

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the
	registered TMSI or P-TMSIChecked to see if it is set to
Establishment Cause	IMSI stored in the test TEST USIM card.
	Originating Interactive Call or Originating Background
	Call or Originating Streaming Call

#### **RRC CONNECTION SETUP**

For this message, the contents of the message to be used are basically identical to the message sub-type entitled "RRC CONNECTION SETUP message (Transition to CELL_FACH)" found in Annex A with the following Exception.

Information Element	Value/remark
Capability update requirement	
UE radio access capability update requirement	TRUE

# **RRC CONNECTION SETUP COMPLETE**

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
UE Radio Access Capability	Checked to see if compatible with the stated capability
	in PIXIT/PICS statements.
UE radio access capability extension	Checked to see if compatible with the stated capability
	in PIXIT/PICS statements.
UE system specific Capability	Checked to see if compatible with the stated capability
	in PIXIT/PICS statements.

# 8.1.2.7.5 Test requirements

After step 3 the UE shall establish the RRC connection, and transmit RRC CONNECTION SETUP COMPLETE message on the DCCH using PRACH physical resource specified in system information block messages.

- 8.1.2.8 Void
- 8.1.2.9 RRC Connection Establishment: Success after Physical channel failure and Invalid configuration
- 8.1.2.9.1 Definition
- 8.1.2.9.2 Conformance requirement
  - 1. The RRC connection establishment is initiated by the UE, which leaves the idle mode. The UE shall transmit an RRC CONNECTION REQUEST message which includes the IE "Initial UE identity". This message shall be sent on the uplink CCCH.
  - 2. In the case of a failure to establish the RRC connection due to a physical channel failure after the UE receives an RRC CONNECTION SETUP message, the UE retries to establish the RRC connection until V300 is greater than N300
  - 3. In the case of a RRC CONNECTION SETUP message is received by UE causes invalid configuration, the UE retries to establish the RRC connection until V300 is greater than N300.

#### Reference

3GPP TS 25.331 clause 8.1.3.

#### 8.1.2.9.3 Test purpose

To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 when a physical channel failure occurs because SS does not configure the physical channel that is specified in the transmitted RRC CONNECTION SETUP message. To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 when the transmitted RRC CONNECTION SETUP message causes invalid configuration in the UE.

8.1.2.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3 or state 7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

#### Test Procedure

Before the test starts, an internal counter K in SS is initialised to a value = 0. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, after the operator attempts to make an outgoing call. SS increments K every time such a message is received. Then, SS shall send a RRC CONNECTION SETUP message that contains an invalid configuration. UE shall then send RRC CONNECTION REQUEST message to SS again. Next SS transmits an RRC CONNECTION SETUP message to make the UE configure the physical channel in order to communicate on the DCCH but SS does not configure the physical channel. Then the UE detects the physical channel failure and transmits an RRC CONNECTION REQUEST message. This cycle is repeated until K reaches N300. When K is equal to N300, the SS transmits the RRC CONNECTION SETUP message and configures the physical channel. The UE shall detect "in-sync" from physical layer and then acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE message on uplink DCCH.

## Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			SS initialises counter K to 0. Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
2	$\rightarrow$	RRC CONNECTION REQUEST	
2a			SS increments K by 1 for every RRC CONNECTION REQUEST message received in step 2
3			SS checks to see if K is equal to N300+1. If so, goes to step 6. Else, continues to execute step 4.
4	÷	RRC CONNECTION SETUP	See message content below. SS does not configure the physical channel.
5			The next step is step 2.
6	÷	RRC CONNECTION SETUP	See the clause 9 in TS 34.108 on default message content for RRC. SS configures the physical channel.
7			The UE configures the layer 1 and layer 2.
8	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	

#### Specific Message Contents

# RRC CONNECTION SETUP (Step 4 and K=1)

Use the same message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not present

# RRC CONNECTION SETUP (Step 4 and K>1)

Use the same message sub-type found in clause 9 of TS 34.108.

# RRC CONNECTION REQUEST (Step 2 and K=1)

Use the same message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the TEST USIM card, or the
	registered TMSI or P-TMSIChecked to see if it is set to
Establishment Cause	IMSI stored in the test TEST USIM card.
	Originating Interactive Call or Originating Background Call
Protocol error indicator	or Originating Streaming Call
	TRUE

#### 8.1.2.9.5 Test requirement

After step 4 the UE shall re-send RRC CONNECTION REQUEST message.

After step 8 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection.

# 8.1.3 RRC Connection Release

## 8.1.3.1 RRC Connection Release in CELL_DCH state: Success

8.1.3.1.1 Definition

## 8.1.3.1.2 Conformance requirement

- 1. The UE shall receive and act on an RRC CONNECTION RELEASE message in states CELL_DCH and CELL_FACH. Furthermore this procedure can interrupt any ongoing procedures with the UE in the above listed states.
  When the UE receives the first RRC CONNECTION RELEASE message, it shall:

  - in state CELL_DCH:
    - initialise the counter V308 to zero;
  - submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using UM RLC on the DCCH to the UTRAN;
    - .
    - start timer T308 when the RRC CONNECTION RELEASE COMPLETE message is sent on the radio interface.
  - 2. When in state CELL DCH and the timer T308 expires, the UE shall:
    - increment V308 by one;
    - if V308 is equal to or smaller than N308:
      - retransmit the RRC CONNECTION RELEASE COMPLETE message, without incrementing "Uplink RRC Message sequence number" for signalling radio bearer RB1 in the variable INTEGRITY_PROTECTION_INFO;
    - if V308 is greater than N308:
      - release all its radio resources;
      - <mark>...</mark>
      - enter idle mode;
      - perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode;
      - and the procedure ends.

In case of an RRC connection release from CELL_DCH state, the UTRAN transmits an RRC CONNECTION RELEASE message to the UE using unacknowledged mode on the DCCH. The UE then responds by transmitting an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode to UTRAN for N308 times, each time at the expiry of T308 timer. Then the UE leaves the RRC connected mode and initiates release of the laver 2 signalling radio bearer. The RRC Connection Release procedure ends when all UE dedicated resources (such as radio resources and radio access bearers) associated with the RRC connection are released and the UE returns to idle mode.

#### Reference

3GPP TS 25.331 clause 8.1.4.3, 8.1.4.6

#### 8.1.3.1.3 Test purpose

To verify:

- that the UE when receiving an RRC CONNECTION RELEASE message transmits N308+1 RRC CONNECTION RELEASE COMPLETE messages before release of radio resources and entering into idle mode
- that the time between UE transmissions of the RRC CONNECTION RELEASE COMPLETE message is equal to the value of the T308 timer.
- To confirm that the UE releases the L2 signalling radio bearer and dedicated resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message from the SS and transmits an RRC CONNECTON RELEASE COMPLETE message to the SS for N308+1 times at the interval specified by the value of T308 timer.

8.1.3.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

#### Test Procedure

The UE is brought to the CELL_DCH state by prompting the operator to initiate an outgoing call. After the DCCH is established, SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the connection. SS then waits for the UE to transmit an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode. SS checks to see if  $P_{\pm}$  such messages has been received at each expiry of T308 timer. P is equal to the value of IE "N308" in an RRC CONNECTION RELEASE message.

Expected sequence

Step	Direction		Message	Comment
-	UE	SS	_	
1				The UE is in the CELL_DCH state after a successful RRC connection establishment by virtue of the operator making an outgoing call.
2		÷	RRC CONNECTION RELEASE	SS disconnect the connection established. The value in IE "N308" is arbitrarily chosen from 1 to 8 and denoted by P.
3		→	RRC CONNECTION RELEASE COMPLETE	SS waits for the arrival of N308 <u>+</u> <u>1</u> such message at the expiry of each T308 timer, using unacknowledged mode.
4				SS verifies that t∓he UE releases its L2 signalling radio bearer and dedicated resources and enters idle mode. Then the UE goes to idle mode.

#### Specific Message Content

#### **RRC CONNECTION RELEASE (Step 2)**

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark	
N308	Arbitrarily chosen between 1 and 8	

#### 8.1.3.1.5 Test requirement

After step 2 the UE shall start to transmit P + 1 times RRC CONNECTION RELEASE COMPLETE messages. The time between the transmissions shall be equal to the T308 timer value. and each time after the expiry of T308 timer.

After step 3 the UE shall initiate the release of the L2 signalling radio bearer and dedicated resources, then it shall go to and enter idle mode.

#### 8.1.3.2 RRC Connection Release using on DCCH in CELL_FACH state: Success

8.1.3.2.1 Definition

#### 8.1.3.2.2 Conformance requirement

In CELL_FACH state, the RRC layer entity in the network may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. Upon the reception of this message, the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to UTRAN on the DCCH and goes back to idle mode after it receives an RLC confirmation from the UTRAN.

#### Reference

3GPP TS 25.331 clause 8.1.4.

#### 8.1.3.2.3 Test purpose

To confirm that the UE releases the L2 signalling radio bearer and resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message on downlink DCCH from the SS. It shall transmit an RRC CONNECTON RELEASE COMPLETE message using acknowledged mode on uplink DCCH to the SS.

8.1.3.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. Finally, SS checks that the UE performs proper release of all radio resources and then goes back to idle mode.

Expected sequence

Step	Direction		Message	Comment
-	UE	SS	_	
1				The UE is brought to the CELL_FACH state.
2	<		RRC CONNECTION RELEASE	SS sends this message using unacknowledged mode RLC operations on the uplink DCCH.
3		→	RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode.
4				The UE releases L2 signalling radio bearer and radio resources. Then the UE goes to idle mode.

#### Specific Message Contents

None.

# 8.1.3.2.5 Test requirement

After step 2 the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode then it shall receive a response for this message from the SS-RLC.

After step 3 the UE shall release its L2 signalling radio bearers and radio resources, then it shall go back to idle mode.

# 8.1.3.3 RRC Connection Release using on CCCH in CELL_FACH state: Success

8.1.3.3.1 Definition

#### 8.1.3.3.2 Conformance requirement

In CELL_FACH state, the RRC layer entity in the network may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the CCCH. Upon the reception of this message, the UE shall release the RRC connection immediately, without replying with a RRC CONNECTION RELEASE COMPLETE message on the uplink.

#### Reference

3GPP TS 25.331 clause 8.1.4.

#### 8.1.3.3.3 Test purpose

To confirm that the UE releases all its radio resources upon the reception of a RRC CONNECTION RELEASE message on the downlink CCCH, without transmitting RRC CONNECTION RELEASE COMPLETE message on the uplink.

### 8.1.3.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, SS transmits an RRC CONNECTION RELEASE message on the downlink CCCH. The UE shall terminate the RRC

connection and release all radio resources allocated to it. SS monitors the uplink DCCH and CCCH to verify that no transmission is detected.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the
				CELL_FACH state.
2	←		RRC CONNECTION RELEASE	SS transmits this message with
				the contents identical to that
				found in TS 34.108 clause 9 on
				downlink CCCH.
3				SS waits for a period equivalent
				to 60 seconds. The UE shall not
				send any response message on
				uplink direction during this
				period. It shall release the radio
				resources allocated and return to
				idle mode.

#### Specific Message Contents

None.

#### 8.1.3.3.5 Test requirement

After step 2 the UE shall release all its radio resources, return to idle mode, without transmitting RRC CONNECTION RELEASE COMPLETE message on the uplink direction.

# 8.1.3.4 RRC Connection Release in CELL_FACH state: Failure

8.1.3.4.1 Definition

#### 8.1.3.4.2 Conformance requirement

In case of RRC connection release from CELL_FACH state, the RRC layer entity in the network issues an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. When the UE does not succeed to transmit the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode, it shall release all its radio resources, enter idle mode and the procedure ends on the UE side.

#### Reference

3GPP TS 25.331 clause 8.1.4

#### 8.1.3.4.3 Test purpose

To confirm that the UE releases all its radio resources and enters idle mode when the UE does not succeed in transmitting the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS (i.e. the UE-RLC cannot receive acknowledgement for the transmission of the RRC CONNECTION RELEASE COMPLETE message from SS).

#### 8.1.3.4.4 Method of test

#### Initial Condition

System Simulator: 1 cell

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

#### Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the RRC connection has been established, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. The SS ignores the message and does not transmit a STATUS PDU of RLC for this message. SS checks to see that UE continues to release all its radio resources and then enters idle mode.

#### Expected sequence

Step	Direction		Message	Comment	
	UE	SS			
1				The UE is brought into	
				CELL_FACH state by asking the	
				operator to perform an outgoing	
				call attempt.	
2	←		RRC CONNECTION RELEASE	SS ask to disconnect the radio	
				link	
3	$\rightarrow$		RRC CONNECTION RELEASE	The UE transmits this message	
			COMPLETE	using acknowledged mode.	
				The SS ignores this message	
				and shall not transmit a STATUS	
				PDU of RLC for this message.	
4				SS checks to make sure that UE	
				releases its all radio resources	
				and enter idle mode.	

#### Specific Message Contents

None

## 8.1.3.4.5 Test requirement

After step 3 the UE shall release its L2 signalling radio bearers and radio resources then it shall go to idle mode.

# 8.1.3.5 RRC Connection Release in CELL_FACH state: Invalid message

8.1.3.5.1 Definition

#### 8.1.3.5.2 Conformance requirement

In CELL_FACH state, the RRC layer entity in UTRAN may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. If an invalid RRC CONNECTION RELEASE message is received by the UE, the UE shall activate the appropriate error-handling mechanism and report the error to the UTRAN. After this, the UE shall release the RRC connection.

#### Reference

3GPP TS 25.331 clause 8.1.4

# 8.1.3.5.3 Test purpose

When the UE receives an invalid RRC CONNECTION RELEASE message on the downlink DCCH, it shall transmit an RRC CONNECTON RELEASE COMPLETESTATUS message that includes the appropriate error cause on the uplink DCCH. Thereafter, it shall release the RRC connection.
#### 8.1.3.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: "Registered idle mode on PS" (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE If the UE supports both CS and PS domains, the initial UE state shall be "Registered idle mode on CS/PS" (state 7). CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE

# Test Procedure

The UE is initially at idle mode. The System Information Block type 11 messages are modified with respect to the default In the System Information type 11 messages, reporting of CPICH RSCP is required for intra-frequency reporting when transmitting RACH messages.

SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. SS and UE shall execute procedure P6. Next SS and UE shall execute procedure P10. Then SS and UE shall execute procedure P14. The UE shall transmit a RRC CONNECTION REQUEST message on the uplink CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH and S-CCPCH physical channels for uplink and downlink usage. UE shall then enter CELL_FACH state. SS starts timer T305 and waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of current cell CPICH RSCP values in IE "Measured results on RACH". SS then replies with CELL UPDATE CONFIRM message on the downlink DCCH. The UE is brought to an initial state of CELL_FACH. SS transmits an invalid RRC CONNECTION RELEASE message on the DCCH to request to disconnect the RRC connection. The UE shall transmit an RRC CONNECTION **RELEASE COMPLETESTATUS** message on the uplink DCCH, which includes the IE "Error indicationProtocol Error Information". This IE shall contain "Failure cause" IE which is set to "Protocol error" and "Protocol error information" IE which is set to "ASN.1 violation or encoding error ". The UE shall release the RRC connection and go back to idle mode after transmitting the RRC CONNECTION RELEASE COMPLETE message. Then SS waits until timer T305 expires, the UE shall send a CELL UPDATE message on the CCCH which includes the measurement reading of current cell CPICH RSCP values in IE "Measured results on RACH". SS then replies with CELL UPDATE CONFIRM message on the downlink DCCH.

#### Expected sequence

Step	Direct	tion	Message	Comment
	UE	SS		
1	<u></u>		Master Information Block System Information Block type 1, System Information Block type 11	The UE is idle mode and camped onto cell 1. System Information Block type 1 and 11 to be transmitted are different from the default settings (see specific message contents)
2	$\leftrightarrow$		<u>SS executes procedure P6 (clause</u> 7.4.2.2.2) specified in TS 34.108.	SS prompts the test operator to make an outgoing call.
<u>3</u>	$\leftrightarrow$		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
<u>4</u>	$\leftrightarrow$		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
<u>5</u>				SS waits for 5 minutes (for the expiry of T305 timer).

<u>6</u>		<u>CELL UPDATE</u>	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
<u>7</u>	↓	CELL UPDATE CONFIRM	
4			The UE is brought to the CELL_FACH state.
<del>2</del> 8	÷	RRC CONNECTION RELEASE	See specific message contents for this message
<u> 39</u>	<i>→</i>	RRC CONNECTION RELEASE COMPLETESTATUS	The IE "Protocol error cause" found in IE "Protocol error information" shall be set to " ASN.1 violation or encoding error ". This message is sent using acknowledge mode.
4			The UE shall release the signalling radio bearers and radio resources, and then return to idle mode.
<u>10</u>			SS waits for 5 minutes (for the expiry of T305 timer).
<u>11</u>	<u> </u>	<u>CELL UPDATE</u>	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
<u>12</u>	<u>+</u>	CELL UPDATE CONFIRM	

# Specific Message Contents

# Master Information Block (Step 1)

Information Element	Value/Remarks
MIB Value tag	2

System Information Block type 1 (Step 1)

Information Element	Value/Remarks
UE Timers and constants in connected mode	
<u>- T305</u>	<u>5 minutes.</u>

# System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length	2
<u>COEfficient</u>	FALSE
- Inter-frequency FDD measurement indicator	
- Inter-RAT measurement indicators	Not Present
Measurement control system information	Not Tresent
- Intra-frequency measurement system	
information	
- Intra-frequency measurement identity	5
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
<ul> <li>New intra-frequency info list</li> </ul>	
<ul> <li>Intra-frequency cell id</li> </ul>	2
<u>- Cell info</u>	
<u>- Cell individual offset</u>	<u>0 dB</u>
- Reference time difference to cell	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
<u> </u>	<u>0 dB</u>
<ul> <li>Maximum allowed UL TX power</li> </ul>	<u>0 dBm</u>
- HCS neighbouring cell information	Not Present
<u> </u>	<u>-200B</u>
<u> </u>	-1150BM Not Drocont
- Cells for measurement quantity	Not Present
- Filter Coefficient	0
- Measurement quantity	
- Intra-frequency measurement for RACH	
reporting	
<ul> <li>SFN-SFN observed time difference</li> </ul>	No report
<ul> <li>Reporting quantity</li> </ul>	<u>CPICH RSCP</u>
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- SEN-SEN observed time difference reporting	No report
indicator	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	No report
- SEN-SEN ODSERVED time difference reporting	
- Cell synchronisation information reporting	FALSE
indicator	
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting	Perioaic Reporting
- CHOICE report criteria	Intra-frequency measurementroporting criterio
	maanequency measurementieporting chilena

Information Element	Value/Remark
- Parameters required for each event	
- Intra-frequency event identity	<u>1a</u>
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
<ul> <li>Reporting Range Constant</li> </ul>	<u>20.0 dB</u>
<ul> <li>Cells forbidden to affect reporting range</li> </ul>	Not Present
- CHOICE mode	FDD
- Primary CPICH info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as used for cell 2
<u>- W</u>	<u>0.0</u>
<u>- Hysteresis</u>	<u>1.0 dB</u>
<ul> <li>Threshold used frequency</li> </ul>	<u>-85 dBm</u>
<ul> <li>Reporting deactivation threshold</li> </ul>	<u>0</u>
<ul> <li>Replacement activation threshold</li> </ul>	Not Present
- Time to trigger	<u>Omsec</u>
<ul> <li>Amount of reporting</li> </ul>	<u>Infinity</u>
<ul> <li>Reporting interval</li> </ul>	<u>12 seconds</u>
<ul> <li>Reporting Cell Status</li> </ul>	
- CHOICE reported cell	Report cells within active and/or monitored set
	on used frequency or within active and/or
	monitored set on non-used frequency
<ul> <li>Maximum number of reported cells</li> </ul>	2
<ul> <li>Inter-frequency measurement system</li> </ul>	Not Present
information	
<ul> <li>Traffic volume measurement system</li> </ul>	Not Present
information	
<ul> <li>UE internal measurement system information</li> </ul>	Not Present

# CELL UPDATE (Step 6 and 11)

Information Element	Value/Remarks
<u>U-RNTI</u>	Check to see if set to same U-RNTI value
	assigned in the execution of procedure P6.
Cell update cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if set to 'FALSE'
Measured results on RACH	
<ul> <li>Measurement result for current cell</li> </ul>	
<ul> <li>CHOICE measurement quantity</li> </ul>	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable
	range.
<ul> <li>Measurement results for monitored cells</li> </ul>	Checked to see if this IE is absent.
Protocol error information	Check to see if set to 'FALSE'

# RRC CONNECTION RELEASE (Step 28)

Information Element	Value/remark	
All IEs	Not Present	

# RRC CONNECTION RELEASE COMPLETESTATUS (Step 9)

Check to see if the same message type found in clause 9 of TS 34.108 A is received, with the following exceptions:

Information Element	Value/remark
Error Indication	
-Failure cause	Protocol error
Protocol error information	
Protocol error cause	ASN.1 violation or encoding error

#### 8.1.3.5.5 Test requirement

After step 5 and 10, the UE shall initiate cell update procedure by transmitting CELL UPDATE message on CCCH. In this message, IE "cell update cause" shall be set to "periodic cell updating". It shall include IE "measured results on RACH", containing the measurement value for current cell CPICH RSCP.

After step <u>2-8</u> the UE shall transmit an RRC <u>CONNECTION RELEASE COMPLETESTATUS</u> message which includes the appropriate cause values in IE "<u>Error Indication</u><u>Protocol error information</u>".

After step 3 the UE shall release its L2 signalling radio bearers and radio resources, then it shall go back to idle mode.

- 8.1.4 Void
- 8.1.5 UE capability
- 8.1.5.1 UE Capability in CELL_DCH state: Success
- 8.1.5.1.1 Definition

#### 8.1.5.1.2 Conformance requirement

- 1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE or if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.
- 2. When the UE receives a UE CAPABILITY ENQUIRY message, the UE transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. Then the UTRAN transmits a UE CAPABILITY INFORMATION CONFIRM message.
- 3. If during the execution of UE capability update procedure, an invalid UE CAPABILITY INFORMATION CONFIRM is received, the UE shall respond with RRC STATUS message and decide whether to re-transmit UE CAPABILITY INFORMATION message by comparing its internal counter against N304.

#### Reference

3GPP TS 25.331 clauses 8.1.6 and 8.1.7.

#### 8.1.5.1.3 Test purpose

To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS. To confirm that the UE indicates an invalid message reception when invalid UE CAPABILITY ENQUIRY and UE CAPABILITY INFORMATION CONFIRM messages are received. The UE shall transmit RRC STATUS message with the correct error cause value to SS.

8.1.5.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an invalid UE CAPABILITY ENQUIRY message . This message lacks all IEs except IE "Message Type". After receiving such a message, the UE shall report the error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a correct UE CAPABILITY ENQUIRY message, the UE receives this message and transmits a UE

CAPABILITY INFORMATION message on the uplink DCCH which includes the "UE radio access capability" IE. The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the test. Then SS initiates another UE capability enquiry procedure. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmits an invalid UE CAPABILITY INFORMATION CONFIRM message. This message lacks all IEs except IE "Message Type". The UE shall detect a protocol error and send RRC STATUS message to report this event. After receiving RLC acknowledgement for this message, the UE shall re-transmit UE CAPABILITY INFORMATION message on the uplink DCCH after the expiry of T304. SS completes this test by transmitting an error-free UE CAPABILITY INFORMATION CONFIRM message similar to the message sent in step 6.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	÷	UE CAPABILITY ENQUIRY	See specific message contents for this message
3	→	RRC STATUS	The IE "Protocol error cause" found in IE "Protocol error information" shall be set to " ASN.1 violation or encoding error "
4	←	UE CAPABILITY ENQUIRY	Use default message.
5	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message.
6	÷	UE CAPABILITY INFORMATION CONFIRM	Use default message.
7	←	UE CAPABILITY ENQUIRY	Same as in step 4.
8	$\rightarrow$	UE CAPABILITY INFORMATION	Shall be the same message content as in step 5.
9	÷	UE CAPABILITY INFORMATION CONFIRM	See specific message contents for this message
10	$\rightarrow$	RRC STATUS	UE shall detect an error and then transmit this message.
11	<i>→</i>	UE CAPABILITY INFORMATION	UE shall re-transmit this message after T304 expires.
12	÷	UE CAPABILITY INFORMATION CONFIRM	SS sends an error-free message to acknowledge the receipt of the uplink message.

#### Specific Message Contents

## UE CAPABILITY ENQUIRY (Step 2)

Information Element	Value/remark
All IEs	Not Present

# RRC STATUS (Step 3)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error

#### **UE CAPABILITY INFORMATION CONFIRM (Step 9)**

Information Element	Value/remark	
All IEs	Not Present	

#### RRC STATUS (Step 10)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error

#### 8.1.5.1.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH, reporting the error with protocol error cause set to " ASN.1 violation or encoding error ".

After step 4 and 7 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the UE CAPABILITY ENQUIRY message.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "ASN.1 violation or encoding error".

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8 after the expiry of T304.

# 8.1.5.2 UE Capability in CELL_DCH state: Success after T304 timeout

8.1.5.2.1 Definition

# 8.1.5.2.2 Conformance requirement

- 1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE, if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.
- 2. After the UE receives a UE CAPABILITY ENQUIRY message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. If it fails to receive a UE CAPABILITY INFORMATION CONFIRM message, the UE re-transmits another UE CAPABILITY INFORMATION message after T304 expires until V304 is greater than N304.

#### Reference

3GPP TS 25.331 clause 8.1.6 and 8.1.7.

#### 8.1.5.2.3 Test purpose

To confirm that the UE re-transmits a UE CAPABILITY INFORMATION message until V304 is greater than N304, after the expiry of timer T304 when the UE cannot receive a UE CAPABILITY INFORMATION CONFIRM message in response to a UE CAPABILITY INFORMATION message.

#### 8.1.5.2.4 Method of test

#### **Initial Condition**

System Simulator: 1 cell.

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is brought to CELL_DCH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the "Capability update requirement" IE, the UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "UE radio access capability" IE. The SS does not transmit a UE CAPABILITY INFORMATION CONFIRM message to the UE, resulting in the T304 timer to expire. SS shall observe that the UE attempts to transmit a UE CAPABILITY INFORMATION message again. The UE shall re-transmit N304 times, and SS transmits a UE CAPABILITY INFORMATION CONFIRM message to answer the last request and completes this test procedure.

#### Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state. SS sets internal counter K =0
2	•	÷	UE CAPABILITY ENQUIRY	Including the IE "Capability update requirement".
3		$\rightarrow$	UE CAPABILITY INFORMATION	Including the "UE radio access capability".
4				If K is equal to N304, then proceed to step 6.
5				The SS does not transmit a response and wait for T304 timer to expire. K=K+1 and goes to step 3.
6		÷	UE CAPABILITY INFORMATION CONFIRM	Use default message contents

#### Specific Message Contents

None

#### 8.1.5.2.5 Test requirement

After step 3 the UE shall re-transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, after each expiry of timer T304. The UE CAPABILITY INFORMATION message shall contain IE "UE radio access capability" indicating the settings found in PIC/PIXIT statements. After (N304) re-transmissions, the UE shall receive a UE CAPABILITY INFORMATION CONFIRM message.

# 8.1.5.3 UE Capability in CELL_DCH state: Failure (After N304 re-transmissions)

8.1.5.3.1 Definition

# 8.1.5.3.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.

#### **Release 4**

2. If UE re-transmits UE CAPABILITY INFORMATION in excess of N304 times, the UE initiates the cell update procedure.

#### Reference

3GPP TS 25.331 clauses 8.1.6 and 8.1.7.

# 8.1.5.3.3 Test purpose

To confirm that the UE stops retrying to transmit a UE CAPABILITY INFORMATION message if V304 is greater than N304. It then initiates cell update procedure.

# 8.1.5.3.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE is brought to CELL_DCH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the "Capability update requirement" IE, the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "UE radio access capability" IE. The SS does not respond with a UE CAPABILITY INFORMATION CONFIRM message but keeps a count on the number of messages received. When the T304 timer expires, the UE shall transmit a UE CAPABILITY INFORMATION message again. After sending (N304+1) messages, the UE shall stop sending UE CAPABILITY INFORMATION messages and initiates the cell update procedure. SS allows UE to return to "connected state" by issuing CELL UPDATE CONFIRM message on the downlink DCCH. Then UE shall reconfigured its physical channel according to the CELL UPDATE CONFIRM message and respond with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to SS.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE starts from CELL_DCH state. SS sets counter K to 0
2	÷	UE CAPABILITY ENQUIRY	Use default message
3	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message
4			The SS does not transmit a response and allows T304 timer to expire. SS increments counter K If K is greater than N304, proceeds to step 5 else returns to 3.
5	<i>→</i>	CELL UPDATE	The UE assumes that radio link failure has occurred and transmits this message which includes IE "Cell update cause" set to "radio link failure".
6	÷	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
7			The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
8	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

# Specific Message Contents

# CELL UPDATE CONFIRM (Step 6) - FDD

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	FDD
- UARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies
<ul> <li>UARFCN downlink(Nd)</li> </ul>	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	
- Secondary scrambling code	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present

# CELL UPDATE CONFIRM (Step 6) - 3.84 Mcps TDD

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	30dBm
CHOICE Mode	TDD
Downlink information for each radio links	
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	3.84 Mcps TDD
- CHOICE SyncCase	Not Present
- Cell Parameters ID	Not Present
<ul> <li>Block STTD indicator</li> </ul>	FALSE
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
<ul> <li>Common timeslot info</li> </ul>	Not Present (default)
<ul> <li>Downlink DPCH timeslots and codes</li> </ul>	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

# CELL UPDATE CONFIRM (Step 6) - 1.28 Mcps TDD

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex A with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
RRC State indicator	CELL_DCH
Frequency info	
- CHOICE mode	TDD
- UARFCN (Nt)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	30dBm
CHOICE Mode	TDD
Downlink information for each radio links	
- Primary CCPCH info	
- CHOICE mode	TDD
- CHOICE TDD option	1.28 Mcps TDD
- TSTD indicator	FALSE
- Cell Parameters ID	Not Present
<ul> <li>Block STTD indicator</li> </ul>	FALSE
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
<ul> <li>Common timeslot info</li> </ul>	Not Present (default)
<ul> <li>Downlink DPCH timeslots and codes</li> </ul>	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

#### 8.1.5.3.5 Test requirement

After step 2, the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The UE shall re-transmit this message for N304 times.

After step 4, the UE shall initiate the cell update procedure.

After step 6, UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after it has configured L1 according to the CELL UPDATE CONFIRM message in step 6.

# 8.1.5.4 UE Capability in CELL_FACH state: Success

8.1.5.4.1 Definition

#### 8.1.5.4.2 Conformance requirement

- 1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network(s) supported by the UE. UTRAN initiates this procedure when it needs an update of the UE's UMTS capability information or of its inter-system classmark.
- 2. When the UE receives a UE CAPABILITY ENQUIRY message, the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH.
- 3. If during the execution of UE capability update procedure, an invalid UE CAPABILITY INFORMATION CONFIRM is received, the UE shall respond with RRC STATUS message and decide whether to re-transmit UE CAPABILITY INFORMATION message by comparing its internal counter against N304.

#### Reference

3GPP TS 25.331 clauses 8.1.6 and 8.1.7.

#### 8.1.5.4.3 Test purpose

To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS. To confirm that the UE indicates an invalid message reception when invalid UE

CAPABILITY ENQUIRY and UE CAPABILITY INFORMATION CONFIRM messages are received. The UE shall transmit RRC STATUS message with the correct error cause value to SS.

8.1.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is brought to the CELL_FACH state after a successful outgoing call attempt. The SS transmits an invalid UE CAPABILITY ENQUIRY message. After receiving such a message, the UE shall report an error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a UE CAPABILITY ENQUIRY message which includes the IE "Capability update requirement". After UE receives this message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, which includes the IE "UE radio access capability". The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the UE capability enquiry procedure. Then SS initiates another UE capability enquiry procedure. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmits an invalid UE CAPABILITY INFORMATION CONFIRM message. This message lacks all IEs except IE "Message Type". The UE shall detect a protocol error and send RRC STATUS message to report this event. After receiving the RLC layer acknowledgement PDU for this message, the UE shall re-transmit UE CAPABILITY INFORMATION message on the uplink DCCH upon the expiry of T304. SS completes this test by sending an error-free UE CAPABILITY INFORMATION CONFIRM message similar to the message sent in step 6.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS	7	
1			The UE is brought to CELL_FACH state after an outgoing call has been established successfully.
2	÷	UE CAPABILITY ENQUIRY	See specific message contents for this message
3	→	RRC STATUS	The IE "Protocol error cause" found in IE "Protocol error information" shall be set to "ASN.1 violation or encoding error"
4	÷	UE CAPABILITY ENQUIRY	Use default message.
5	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message.
6	←	UE CAPABILITY INFORMATION CONFIRM	Use default message.
7	←	UE CAPABILITY ENQUIRY	Same as in step 4.
8	$\rightarrow$	UE CAPABILITY INFORMATION	The message content shall be the same as in step 5.
9	÷	UE CAPABILITY INFORMATION CONFIRM	See specific message contents for this message
10	<i>→</i>	RRC STATUS	UE shall detect an error and then transmit this message on uplink DCCH.
11	$\rightarrow$	UE CAPABILITY INFORMATION	UE shall re-transmit this message after T304 expires.
12	÷	UE CAPABILITY INFORMATION CONFIRM	SS sends an error-free message to acknowledge the receipt of the uplink message.

#### Specific Message Contents

#### **UE CAPABILITY ENQUIRY (Step 2)**

Information Element	Value/remark
All IEs	Not Present

#### RRC STATUS (Step 3)

Check to is the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error

#### UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
All IEs	Not Present

#### RRC STATUS (Step 10)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding error"

#### 8.1.5.4.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH, reporting the error with protocol error cause set to " ASN.1 violation or encoding error ".

After step 4 and 7 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the downlink UE CAPABILITY ENQUIRY message.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "ASN.1 violation or encoding error".

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8 upon the expiry of T304.

# 8.1.5.5 UE Capability in CELL_FACH state: Success after T304 timeout

8.1.5.5.1 Definition

## 8.1.5.5.2 Conformance requirement

- 1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network(s) supported by the UE. UTRAN initiates this action when it needs an update of the UE's UMTS capability information or of its inter-system classmark.
- 2. After the UE receives a UE CAPABILITY ENQUIRY message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. If it fails to receive a UE CAPABILITY INFORMATION CONFIRM message, the UE re-transmits another UE CAPABILITY INFORMATION message until its internal counter V304 is greater than N304.

Reference

3GPP TS 25.331 clauses 8.1.6 and 8.1.7.

#### 8.1.5.5.3 Test purpose

To confirm that the UE re-transmits a UE CAPABILITY INFORMATION message until V304 is greater than N304, after the expiry of timer T304 when it fails to receive a downlink UE CAPABILITY INFORMATION CONFIRM message in response to the uplink UE CAPABILITY INFORMATION message sent.

8.1.5.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is brought to CELL_FACH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the IE "Capability update requirement", the UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH that contains the IE "UE radio access capability". The SS waits and does not transmit a UE CAPABILITY INFORMATION CONFIRM message to the UE, resulting in the T304 timer to expire. SS shall observe that the UE attempts to transmit a UE CAPABILITY INFORMATION message again. The UE shall re-transmit N304 times, and SS transmits a UE CAPABILITY INFORMATION CONFIRM message to answer the last request and completes this test procedure.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to
				CELL_FACH state.
				SS sets internal counter K
				=0
2		÷	UE CAPABILITY ENQUIRY	Including the IE "Capability
				update requirement".
3		$\rightarrow$	UE CAPABILITY INFORMATION	Including the IE "UE radio
				access capability".
4				If K equals N304, then
				proceeds to step 6. Else,
				continue with step 5.
5				The SS does not transmit
				a response and wait for
				T304 timer to expire.
				K=K+1 and goes to step 3.
6	•	÷	UE CAPABILITY INFORMATION CONFIRM	Use default message
				contents

#### Specific Message Contents

None

#### 8.1.5.5.5 Test requirement

After step 3 the UE shall re-transmit a UE CAPABILITY INFORMATION message on the uplink DCCH, after each expiry of timer T304. The UE CAPABILITY INFORMATION message shall contain IE "UE radio access capability" with the value matching those stated in the ICS/IXIT statements. After (N304) re-transmissions, the UE shall receive a UE CAPABILITY INFORMATION CONFIRM message.

# 8.1.6 Direct Transfer

- 8.1.6.1 Direct Transfer in CELL DCH state (invalid message reception and no signalling connection exists)
- 8.1.6.1.1 Definition

# 8.1.6.1.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the value "ASN.1 violation or encoding error" in IE "Protocol error cause" when the UE receives a DOWNLINK DIRECT TRANFER message, which does not include any IEs except IE "Message Type". The UE shall transmit an RRC STATUS message including the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state" when the UE receives a DOWNLINK DIRECT TRANFER message, with invalid IE"CN domain identity".

Reference

3GPP TS 25.331 clause 8.1.9.

#### 8.1.6.1.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which does not include any IEs except IE "Message Type". To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which includes an invalid IE "CN domain identity".

#### 8.1.6.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid DOWNLINK DIRECT TRANSFER message to the UE. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "ASN.1 violation or encoding error" shall also be indicated in IE "Protocol error cause". The SS transmits a DOWNLINK DIRECT TRANSFER message that contains an invalid IE "CN domain identity" to the UE. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "Message not compatible with receiver state" shall also be indicated in IE "Protocol error cause".

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	DOWNLINK DIRECT TRANSFER	Only message type is provided.
2	$\rightarrow$	RRC STATUS	
3	←	DOWNLINK DIRECT TRANSFER	
4	$\rightarrow$	RRC STATUS	

#### Specific Message Contents

# DOWNLINK DIRECT TRANSFER (Step 1)

Information Element	Value/remark
All IEs	Not Present

# RRC STATUS (Step 2)

Check to see if same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark	
Protocol error information		
- Protocol error cause	ASN.1 violation or encoding error	

#### DOWNLINK DIRECT TRANSFER (Step 3)

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
CN domain identity	CS domain or PS domain as unselected domain
NAS message	Arbitrary message.

# RRC STATUS (Step 4)

Check to see if same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark	
Message Type		
Identification of received messag type		
- Received message type	DOWNLINK DIRECT TRANSFER	
- RRC transaction identifier	Same value in the DOWNLINK DIRECT TRANSFER message in step 3.	
Protocol error information	5	
<ul> <li>Protocol error cause</li> </ul>	Message not compatible with receiver state	

# 8.1.6.1.5 Test requirement

After step 1 the UE shall transmit an RRC STATUS message on the DCCH using AM RLC setting "ASN.1 violation or encoding error" in IE "Protocol error cause".

After step 3 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting "Message not compatible with receiver state" in IE "Protocol error cause".

# 8.1.6.2 Direct Transfer in CELL FACH state (invalid message reception and no signalling connection exists)

8.1.6.2.1 Definition

#### 8.1.6.2.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the value "ASN.1 violation or encoding error" in IE "Protocol error cause" when the UE receives a DOWNLINK DIRECT TRANSFER message, which does not include any IEs except IE "Message Type". The UE shall transmit an RRC STATUS message including the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state" when the UE receives a DOWNLINK DIRECT TRANSFER message, with invalid IE "CN domain identity".

#### Reference

3GPP TS 25.331 clause 8.1.9.

#### 8.1.6.2.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which does not include any IEs except IE "Message Type". To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message which includes an invalid IE "CN domain identity".

8.1.6.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a DOWNLINK DIRECT TRANSFER message to the UE and does not include all IEs except IE "Message Type". The UE shall transmit an RRC STATUS message on the DCCH using AM RLC. The error type "ASN.1 violation or encoding error" shall also be indicated in IE "Protocol error cause". The SS transmits a DOWNLINK DIRECT TRANSFER message that contains an invalid IE "CN domain identity" to the UE. The UE shall transmit an RRC STATUS message not compatible with receiver state" shall also be indicated in IE "Protocol error cause".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		÷	DOWNLINK DIRECT TRANSFER	Only message type is provided
2		$\rightarrow$	RRC STATUS	
3		÷	DOWNLINK DIRECT TRANSFER	
4		$\rightarrow$	RRC STATUS	

#### Specific Message Contents

#### DOWNLINK DIRECT TRANSFER (Step 1)

Information Element	Value/remark
All IEs	Not Present

#### RRC STATUS (Step 2)

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark	
Protocol error information – Protocol error cause	ASN.1 violation or encoding error	

DOWNLINK DIRECT TRANSFER (Step 3)

Information Element	Value/remark
CN domain identity	CS domain or PS domain as unselected domain
NAS message	Arbitrary message.

#### **RRC STATUS (Step 4)**

Check to see if the same message type found in Annex A is received, with the following exceptions:

Information Element	Value/remark
Identification of received message type - Received message type - RRC transaction identifier	DOWNLINK DIRECT TRANSFER Same value in the DOWNLINK DIRECT TRANSFER message in step 3.
Protocol error information – Protocol error cause	Message not compatible with receiver state

#### 8.1.6.2.5 Test requirement

After step 1 the UE shall transmit an RRC STATUS message on the DCCH using AM RLC setting "ASN.1 violation or encoding error" in IE "Protocol error cause".

After step 3 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting "Message not compatible with receiver state" in IE "Protocol error cause".

# 8.1.7 Security mode command

# 8.1.7.1 Security mode command in CELL_DCH state

8.1.7.1.1 Definition

#### 8.1.7.1.2 Conformance requirement

- 1. This procedure is used to trigger the stop or start of ciphering or to command the restart of ciphering with the new ciphering configuration for the signalling radio bearers and any of radio bearers. It is also used to start integrity protection or modify integrity protection configuration for the signalling radio bearers.
- 2. When the UE receives a SECURITY MODE COMMAND message from the UTRAN, which indicates the downlink activation time and new ciphering mode configuration, the UE shall apply the old ciphering configuration before the stated downlink activation time. It shall start to decipher using the new ciphering configuration at the downlink activation time.
- 3. After the UE has transmitted a SECURITY MODE COMPLETE message using the new integrity protection configuration which includes uplink activation time, it shall start to cipher transmission in the uplink using the new configuration at the uplink activation time.

#### Reference

3GPP TS 25.331 clause 8.1.12.

#### 8.1.7.1.3 Test purpose

To confirm that the UE activates the new ciphering configurations after the stated activation time. To confirm that after the UE receives a SECURITY MODE COMMAND message, it transmits a SECURITY MODE COMPLETE message to the UTRAN using the old ciphering configuration together with the application of the new integrity protection configuration. To confirm that UE sends a SECURITY MODE FAILURE message when SS transmits an incompatible simultaneous SECURITY MODE COMMAND messages to UE. To confirm that UE send SECURITY MODE

FAILURE message when SS transmits a SECURITY MODE COMMAND message that causes invalid configuration. To confirm that UE send SECURITY MODE FAILURE message when UE receives an invalid SECURITY MODE COMMAND message.

8.1.7.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE is in CELL_DCH state. The SS transmits a SECURITY MODE COMMAND message which does not include any IEs except IE "Message Type". The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH. Then SS transmits a SECURITY MODE COMMAND message with IE "Ciphering mode command" set to "stop". Again the UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes the "Downlink activation time" IE for RB2 and "Integrity check info" IE. Following that, SS immediately transmit another valid SECURITY MODE COMMAND message to UE. Then the UE shall check the integrity check info and shall start to configure ciphering in downlink according to the first valid SECURITY MODE COMMAND message. Upon the reception of the subsequent SECURITY MODE COMMAND message, the UE shall transmit SECURITY MODE FAILURE message to SS with IE "failure cause" set to "incompatible simultaneous reconfiguration". Then UE shall transmit a SECURITY MODE COMPLETE message which contains the uplink activation time for RB2 and also "Integrity check info" IE using the new integrity protection configuration. SS records the uplink ciphering activation time for RB 2. Next, SS transmits UE CAPABILITY ENOURY message repeatedly on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS then send UE CAPABILITY INFORMATION CONFIRM message to UE. This cycle repeats itself until both the uplink and downlink ciphering activation time for RB 2 has elapsed. SS checks all uplink UE CAPABILITY INFORMATION messages are integrity-protected by UIA algorithm, and that the messages contain the correct values for "Integrity check info" IE. This can be verified in SS through the reception of a correctly ciphered and integrity-protected UE CAPABILITY INFORMATION message.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			RRC connected state on
			DCH_state.
2	←	SECURITY MODE COMMAND	See message content.
3	$\rightarrow$	SECURITY MODE FAILURE	IE "Failure Cause" shall be set
			to "Protocol Error" and IE
			"Protocol Error Information"
			shall be set to " ASN.1
			violation or encoding error ".
4	<b>←</b>	SECURITY MODE COMMAND	See message content.
5	$\rightarrow$	SECURITY MODE FAILURE	IE "Failure Cause" shall be set
			to "invalid configuration".
6	÷	SECURITY MODE COMMAND	See specific message
			contents.
1	←	SECURITY MODE COMMAND	See specific message
			contents.
8	$\rightarrow$	SECURITY MODE FAILURE	IE "Failure Cause" shall be set
			to "Incompatible simultaneous
			reconfiguration".
9	7	SECURITY MODE COMPLETE	55 verifies that this message
			the uplink eightering activation
			time for PP 2
10	4		SS repeats step 10, 11 and 12
10		DE CAFABILITT ENQUIRT	until its internal unlink and
			downlink RI C SN have both
			surpassed the uplink and
			downlink ciphering activation
			time specified for RB2. This
			message is sent on the
			downlink DCCH using RLC-
			AM.
11	$\rightarrow$	UE CAPABILITY INFORMATION	UE shall send this message
			on the uplink DCCH using
			RLC-AM. SS verifies that the
			last UE CAPABILITY
			INFORMATION message is
			both integrity-protected and
			ciphered correctly.
12	÷	UE CAPABILITY INFORMATION CONFIRM	

# Specific Message Contents

# SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
All IEs	Not Present

# SECURITY MODE FAILURE (Step 3)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Protocol error
Protocol error information	
Protocol error cause	ASN.1 violation or encoding error

1

# SECURITY MODE COMMAND (Step 4)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUEFALSE
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
<ul> <li>Ciphering mode command</li> </ul>	-
Integrity protection mode info	Stop
<ul> <li>Integrity protection mode command</li> </ul>	-
<ul> <li>Downlink integrity protection activation info</li> </ul>	Start
<ul> <li>Integrity protection algorithm</li> </ul>	Not Present
- Integrity protection initialisation number	UIA1
CN domain identity	0000 0000 0000 0000H (FRESH)
	Supported domain

# SECURITY MODE FAILURE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Invalid configuration

# SECURITY MODE COMMAND (Step 6 and 7)

See notes below for the value of Y.

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUEFALSE
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	Use one of the supported ciphering algorithms
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	2
RLC sequence number	Current RLC SN + Y
Integrity protection mode info	
Integrity protection mode command	Start
Downlink integrity protection activation info	Not Present
Integrity protection algorithm	UIA1
	0000 0000 0000 0000 H (FRESH)
	Supported domain
Integrity protection initialisation number	
CN domain identity	

Note Y=4 (Step 6), Y=100 (Step 7)

# SECURITY MODE FAILURE (Step 8)

The same message found in Annex A shall be transmitted by the UE on the uplink DCCH, with the exception of the following IEs:

Information Element	Value/remark
Failure cause	
Failure cause	Incompatible simultaneous reconfiguration

#### SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
<ul> <li>Message Authentication code</li> </ul>	Checked to see if present
<ul> <li>RRC Message sequence number</li> </ul>	Checked to see if present
Uplink integrity protection activation info	
<ul> <li>RRC message sequence number list</li> </ul>	Check to see if it the RRC SN for RB 0 to RB 4 are
	present
Radio bearer uplink ciphering activation info	
- RB Identity	2
- RLC sequence number	SS records this value. See step 8 in 'expected sequence'

## 8.1.7.1.5 Test requirement

After step 2 the UE shall transmit a SECURITY MODE FAILURE message to report the protocol error detected in the first SECURITY MODE COMMAND message.

After step 4 the UE shall transmit a SECURITY MODE FAILURE message to report on the invalid configuration detected in the second SECURITY MODE COMMAND message.

After step 7, UE shall transmit SECURITY MODE FAILURE to SS to indicate an error due to incompatible simultaneous reconfiguration.

After step 8 the UE shall RLC-acknowledge the receipt of the first valid SECURITY MODE COMMAND message using unciphered mode and which includes calculated integrity check info. SS checks that the SECURITY MODE COMPLETE message is received unciphered and that the calculated "integrity check info" IE is correct.

After step 9 SS verifies that all uplink signalling messages on RB2 are integrity protected with UIA1 algorithm.

After uplink ciphering activation time has lapsed, SS verifies that the UE CAPABILITY INFORMATION message received is integrity protected with UIA algorithm and ciphered with the algorithm indicated in the SECURITY MODE COMMAND (Step 6) message.

After downlink ciphering activation time has lapsed, SS shall apply ciphering to all downlink messages At least one more cycle between step 10 and step 12 shall be repeated correctly after activation time on both directions has lapsed and the messages on both direction shall be ciphered and integrity protected..

# 8.1.7.2 Security mode command in CELL_FACH state

Definition

8.1.7.2.2 Conformance requirement

- 1. This procedure is used to trigger the stop or start of ciphering, or to command the restart of ciphering with the new ciphering configuration for the signalling radio bearers and any of radio bearers. It is also used to start integrity protection or modify integrity protection configuration for signalling radio bearers.
- 2. When the UE receives a SECURITY MODE COMMAND message from the UTRAN, which indicates the downlink activation time and new ciphering mode configuration, the UE shall apply the old ciphering configuration before the stated downlink activation time. It shall start to decipher using the new ciphering configuration at the downlink activation time.
- 3. The UE shall transmit SECURITY MODE COMPLETE message using the new integrity protection configuration stated in the received SECURITY MODE COMMAND message. The SECURITY MODE COMPLETE message shall include the ciphering uplink activation time. The UE shall start to apply the new ciphering configuration on the uplink direction, after the uplink activation time has elapsed.

#### Reference

3GPP TS 25.331 clause 8.1.12.

#### 8.1.7.2.3 Test purpose

To confirm that after the UE receives a SECURITY MODE COMMAND message, it transmits a SECURITY MODE COMPLETE message to the UTRAN using the old ciphering configuration together with the application of the new integrity protection configuration. To confirm that the UE applies the old ciphering configuration in the downlink prior to the activation time; and uses the new ciphering configuration on and after the activation time. To confirm that the UE starts to cipher its uplink transmissions after the uplink activation time stated in SECURITY MODE COMPLETE message is reached. To confirm that UE send SECURITY MODE FAILURE message when UE receives an invalid SECURITY MODE COMMAND message.

# 8.1.7.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CELL_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in CELL_FACH state. The SS transmits a SECURITY MODE COMMAND message which does not include any IEs except IE "Message Type". The UE shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes IE "Downlink activation time" for RB2 and IE "Integrity check info". The UE shall check the integrity check info. It shall start to configure ciphering in downlink and transmit a SECURITY MODE COMPLETE message, which contains the uplink activation time for RB2 using the new integrity protection configuration. This message shall contain the IE "Integrity check info". SS records the uplink ciphering activation time for RB 2. Next, SS transmits UE CAPABILITY ENQUIRY message repeatedly on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a UE CAPABILITY INFORMATION message on the uplink DCCH using RLC-AM. SS checks all uplink messages are integrity-protected by UIA1 algorithm, and that the messages contain the correct values for "Integrity check info" IE. This cycle repeats itself until both the uplink and downlink ciphering activation time for RB 2 have elapsed. After both the uplink and downlink ciphering activation time for RB 2 have passed, the UE shall be able to communicate with the SS using the new ciphering configurations. This can be verified in SS through the reception of a correctly ciphered and integrity-protected UE CAPABILITY INFORMATION message.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			UE is initially in CELL_FACH
			state.
2	←	SECURITY MODE COMMAND	See specific message content
3	$\rightarrow$	SECURITY MODE FAILURE	IE "Failure Cause" shall be set
			"Protocol Error Information"
			shall be set to " ASN.1
			violation or encoding error ".
4		Void	
5		Void	
6		Void	
7		Void	
8	÷	SECURITY MODE COMMAND	See specific message
			contents.
9	$\rightarrow$	SECURITY MODE COMPLETE	SS verifies that this message
			is sent unciphered. SS records
			the uplink ciphering activation
10			time for RB 2.
10	<b>~</b>		55 repeats step 10,11 and 12
			downlink PLC SN bave both
			surpassed the uplink and
			downlink cinbering activation
			time specified for RB2 This
			message is sent on the
			downlink DCCH using RLC-
			AM.
11	$\rightarrow$	UE CAPABILITY INFORMATION	UE shall send this message
			on the uplink DCCH using
			RLC-AM. SS verifies that the
			last UE CAPABILITY
			INFORMATION message is
			both integrity-protected and
40			ciphered correctly.
12	←	UE CAPABILITY INFORMATION CONFIRM	

# Specific Message Contents

#### SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
All IEs	Not Present

# SECURITY MODE COMMAND (Step 8)

See notes below for the value of Y.

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	
UEA0	TRUEFALSE
UEA1	TRUE
Spare	FALSE
Integrity protection algorithm capability	
UIA1	TRUE
Spare	FALSE
Ciphering mode info	
Ciphering mode command	Start/restart
Ciphering algorithm	Use one of the supported ciphering algorithms
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	2
RLC sequence number	Current RLC SN + 4
Integrity protection mode info	
Integrity protection mode command	Start
Downlink integrity protection activation info	Not Present
Integrity protection algorithm	UIA1
	0000 0000 0000 0000 H (FRESH)
	Supported domain
Integrity protection initialisation number	
CN domain identity	

# SECURITY MODE COMPLETE (Step 9)

Information Element	Value/remark
RRC transaction identifier	0
Integrity check info	
<ul> <li>Message Authentication code</li> </ul>	Checked to see if present
<ul> <li>RRC Message sequence number</li> </ul>	Checked to see if present
Uplink integrity protection activation info	
<ul> <li>RRC message sequence number list</li> </ul>	Check to see if it the RRC SN for RB 0 to RB 4 are
	present
Radio bearer uplink ciphering activation info	
- RB Identity	2
- RLC sequence number	SS records this value. See step 8 in 'expected sequence'

# 8.1.7.2.5 Test requirement

After step 2 the UE shall transmit a SECURITY MODE FAILURE message to report the protocol error detected in the first SECURITY MODE COMMAND message.

After step 8 the UE shall RLC-acknowledge the receipt of the SECRUITY MODE COMMAND message using unciphered mode and which includes calculated integrity check info. SS checks that the SECURITY MODE

COMPLETE message is received unciphered and that the calculated MAC-I values in "integrity check info" IE is correct.

After step 9 SS verifies that all uplink signalling messages on RB2 are integrity protected with UIA1 algorithm.

After uplink ciphering activation time has lapsed, SS verifies that the UE CAPABILITY INFORMATION message received is integrity protected with UIA algorithm and ciphered with the algorithm indicated in the SECURITY MODE COMMAND (Step 8) message.

After downlink ciphering activation time has lapsed, SS shall apply ciphering to all downlink messages. At least one more cycle between step 10 and step 12 shall be repeated correctly after activation time on both directions has lapsed and the messages on both directions shall be ciphered and integrity protected.

# 8.1.8 Counter check

- 8.1.8.1 Counter check in CELL_DCH state
- 8.1.8.1.1 Definition
- 8.1.8.1.2 Conformance requirement

When the UE receives a COUNTER CHECK message that includes matched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and omitting "RB COUNT-C information" IE in this message.

When the UE receives a COUNTER CHECK message that includes any mismatched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and specifies the current COUNT-C information of the RAB(s) with mismatched values.

When the UE receives an invalid COUNTER CHECK message, the UE shall perform procedure specific error handling.

#### Reference

3GPP TS 25.331 clause 8.1.15.

## 8.1.8.1.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message after it receives a COUNTER CHECK message from the SS. To confirm that the UE responds to the reception of an invalid downlink COUNTER CHECK message by transmitting a RRC STATUS message on the uplink DCCH, stating the correct error cause value in message.

8.1.8.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-10) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an invalid COUNTER CHECK message. This message lacks all IEs except IE "Message Type". The UE shall detect a protocol error and send RRC STATUS message to report this event. Next, the SS transmits a COUNTER CHECK message that includes the current COUNT-C MSB information in each radio access bearer. The UE shall react by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, which does not include "RB COUNT-C information" IE. The SS transmits a COUNTER CHECK message which includes the current COUNT-C MSB information reversed all the bits in each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established. The SS transmits a COUNTER

Release 4

CHECK message which includes a different radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	÷	COUNTER CHECK	See specific message contents for this message
3	$\rightarrow$	RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	÷	COUNTER CHECK	See specific message content.
5	$\rightarrow$	COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	÷	COUNTER CHECK	See specific message content.
7	$\rightarrow$	COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".
8	$\leftarrow$	COUNTER CHECK	See specific message content.
9	$\rightarrow$	COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

# Specific Message Contents

# COUNTER CHECK (Step 2)

Information Element	Value/remark
All IEs	Not Present

# RRC STATUS (Step 3)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding
	error"

# COUNTER CHECK (Step 4)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	20
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#20 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#20 in downlink

# COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent

# COUNTER CHECK (Step 6)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Check to see if set to 20
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink
	for RB#20
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink
	for RB#20

# COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in
	uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink

# COUNTER CHECK (Step 8)

Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	Check to see if set to 25
- COUNT-C MSB uplink	Arbitrary COUNT-C MSB in uplink for RB#25
- COUNT-C MSB downlink	Arbitrary COUNT-C MSB in downlink for RB#25

COUNTER CHECK RESPONSE (Step 9)

• • • <b>-</b> •	
Information Element	Value/remark
Message Type	
RRC transaction identifier	0
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 20
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in
	uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink
- RB identity	Check to see if set to 25
- COUNT-C uplink	Check to see if COUNT-C MSB is set to COUNT-C
	MSB in uplink for RB#25 in step 8 and LSB is fill with '0'
- COUNT-C downlink	Check to see if COUNT-C MSB is set to COUNT-C
	MSB in downlink for RB#25 in step 8 and LSB is fill with
	'0'

#### 8.1.8.1.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "ASN.1 violation or encoding error".

After step 4 the UE shall transmit a COUNTER CHECK RESPONSE message which does not includes the IE "RB COUNT-C information" to indicates that a matched comparison result is obtained.

After step 6, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that a mismatch in COUNT-C value is detected in RB#20.

After step 8, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that RB#25 is not found in variable ESTABLISHED_RABS and RB#20 is not found in IE "RB COUNT-C MSB information".

# 8.1.8.2 Counter check in CELL_FACH state

8.1.8.2.1 Definition

8.1.8.2.2 Conformance requirement

When the UE receives a COUNTER CHECK message that includes matched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and omitting "RB COUNT-C information" IE in this message.

When the UE receives a COUNTER CHECK message that includes any mismatched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and specifies the current COUNT-C information of the RAB(s) with mismatched values.

When the UE receives an invalid COUNTER CHECK message, the UE shall perform procedure specific error handling.

#### Reference

3GPP TS 25.331 clause 8.1.15.

#### 8.1.8.2.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message after it receives a COUNTER CHECK message from the SS. To confirm that the UE responds to the reception of an invalid downlink COUNTER CHECK message by transmitting a RRC STATUS message on the uplink DCCH, stating the correct error cause value in message.

#### 8.1.8.2.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is brought to the CELL_FACH state after a successful outgoing call attempt. The SS transmits an invalid COUNTER CHECK message. This message lacks all IEs. The UE shall detect a protocol error and send RRC STATUS message to report this event. Next, the SS transmits a COUNTER CHECK message that includes the current COUNT-C MSB information in each radio access bearer. The UE shall react by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, which does not include "RB COUNT-C information" IE. The SS transmits a COUNTER CHECK message, which includes the current COUNT-C MSB information for each radio bearer but with all the bits reversed. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established. The SS transmits a COUNTER CHECK message which includes a different radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established.

#### Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state after an outgoing call has been established successfully.
2	•	÷	COUNTER CHECK	See specific message contents for this message
3	-	<b>→</b>	RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	•	÷	COUNTER CHECK	See specific message content.
5	-	<del>}</del>	COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	•	÷	COUNTER CHECK	See specific message content.
7	-	<i>&gt;</i>	COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".
8	•	<del>(</del>	COUNTER CHECK	See specific message content.
9	-	> 	COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

#### Specific Message Contents

#### COUNTER CHECK (Step 2)

Information Element	Value/remark	
All IEs	Not Present	

# RRC STATUS (Step 3)

Information Element	Value/remark
Message Type	
Protocol Error Information	
- Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding"

# COUNTER CHECK (Step 4)

Information Element	Value/remark							
Message Type								
RRC transaction identifier	0							
Integrity check info	Calculated value							
RB COUNT-C MSB information								
- RB identity	20							
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#20 in uplink							
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#20 in downlink							

# COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark						
Message Type							
RRC transaction identifier	0						
Integrity check info	Not checked						
RB COUNT-C information	Check to if this IE is absent						

# COUNTER CHECK (Step 6)

Information Element	Value/remark							
Message Type								
RRC transaction identifier	0							
Integrity check info	Calculated value							
RB COUNT-C MSB information								
- RB identity	20							
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#20							
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#20							

#### COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark						
Message Type							
RRC transaction identifier	0						
Integrity check info	Not checked						
RB COUNT-C information							
- RB identity	Check to see if set to 20						
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in						
	uplink						
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink						

#### COUNTER CHECK (Step 8)

Information Element	Value/remark						
Message Type							
RRC transaction identifier	0						
Integrity check info	Calculated value						
RB COUNT-C MSB information							
- RB identity	Check to see if set to 25						
- COUNT-C MSB uplink	Arbitrary COUNT-C MSB in uplink for RB#25						
- COUNT-C MSB downlink	Arbitrary COUNT-C MSB in downlink for RB#25						

# COUNTER CHECK RESPONSE (Step 9)

Information Element	Value/remark						
RRC transaction identifier	0						
Integrity check info	Not checked						
RB COUNT-C information							
- RB identity	Check to see if set to 20						
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#20 in uplink						
- COUNT-C downlink	Check to see if set to COUNT-C for RB#20 in downlink						
- RB identity	Check to see if set to 25						
- COUNT-C uplink	Check to see if COUNT-C MSB is set to COUNT-C						
	MSB in uplink for RB#25 in step 8 and LSB is fill with '0'						
- COUNT-C downlink	Check to see if COUNT-C MSB is set to COUNT-C						
	MSB in downlink for RB#25 in step 8 and LSB is fill with						
	'0'						

#### 8.1.8.2.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "ASN.1 violation or encoding error".

After step 4 the UE shall transmit a COUNTER CHECK RESPONSE message which does not includes the IE "RB COUNT-C information" to indicates that a matched comparison result is obtained.

After step 6, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that a mismatch in COUNT-C value is detected in RB#20.

After step 8, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "RB COUNT-C information" to report that RB#25 is not found in variable ESTABLISHED_RABS and RB#20 is not found in IE "RB COUNT-C MSB information".

# 8.1.9 Signalling Connection Release Request

8.1.9.1 Definition

#### 8.1.9.2 Conformance requirement

The UE shall initiate the signalling connection release procedure when the higher layer entities in the UE request to release one or more signalling session (one example of such case is location update failure). In this case, the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message, which includes the CN domain identity of the connection flow to be released.

Reference

3GPP TS 25.331 clause 8.1.14.

8.1.9.3 Test purpose

To confirm that the UE transmits a SIGNALLING CONNECTION RELEASE REQUEST message after it fails to receive a response for the LOCATION UPDATING REQUEST message.

8.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: Switched off (state 1) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is turned on and it shall find a suitable cell to camp on. The UE shall initiate a location updating procedure. The UE shall establish an RRC connection and transmit a LOCATION UPDATING REQUEST message using the INITIAL DIRECT TRANSFER message. The SS does not respond to this message, and the UE shall send a SIGNALLING CONNECTION RELEASE REQUEST message which includes the CN domain identity with the same value as that in the INITIAL DIRECT TRANSFER message.

#### Expected sequence

Step	Direction	Message	Comment				
	UE SS						
1			The UE is powered on.				
2	$\rightarrow$	RRC CONNECTION REQUEST	UE shall initiate the location				
			updating procedure.				
3	÷	RRC CONNECTION SETUP					
4			The UE configures the layer 2				
			and layer 1.				
5	$\rightarrow$	RRC CONNECTION SETUP COMPLETE					
6	$\rightarrow$	INITIAL DIRECT TRANSFER (LOCATION	LOCATION UPDATE				
		UPDATING REQUEST)	REQUEST is embedded in this				
			message transmission.				
7			The SS does not respond and				
			waits until the timer for location				
			update procedure expires.				
8	$\rightarrow$	SIGNALLING CONNECTION RELEASE REQUEST					

# Specific Message Content

# SIGNALLING CONNECTION RELEASE REQUEST (Step 8)

Information Element	Value/remark						
CN domain identity	Check to see if this value is the as same as in the uplink						
	INITIAL DIRECT TRANSFER message.						

# 8.1.9.5 Test requirement

After step 1 the UE shall initiate the LOCATION UPDATING procedure and establish an RRC connection.

After step 7 the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message which includes the same CN domain identity as that found in the INITIAL DIRECT TRANSFER message.

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<ol> <li>Summary of change: #</li> <li>Updated IE " PDCP Capability" used in IE " UE radio access capability " TS 25.331 version 4.3.0 (RRC), clause 10.3.3.24 to be used for PDCP to configuration in TS 34.123-1, clause 7.3 (CONNECTION SETUP COMF message).</li> <li>Update of test data packet sizes to be used for PDCP testing. According PDCP testing, the maximum test data packet size is reduced to 1500 by TS 23.107, clause 6.5.1 and 6.5.2 where ranges of QoS attributes are do loop test mode is established).</li> <li>Correction of IE "PDCP Info" used in IE " RAB information for setup" as 25.331 version 4.3.0 (RRC), clause 10.3.4.2: "EXPECTED_REORDER default value is set to "reordering not expected"</li> </ol>						" as de test PLETE g the vtes. I lefined define	efined in TTCN for t refers to I (if no ed in TS the								
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# 7.3 PDCP

## 7.3.1 General

## 7.3.1.1 General assumptions

If not otherwise mentioned, the same procedures as used in RRC test specification (TS 34.123-1) or in the Generic procedure (TS 34.108) applies to reach Initial conditions for PDCP testing. In this test description, common test sequences for PDCP (clause 7.3.4.1) are defined and are applied either as preamble or post amble to establish or release a Packet Switched (PS) connection for a test case.

If not explicitly described, the same message contents and settings are applied as described in the RRC test description default settings.

Detailed IP header compression coding mechanism as well as mechanism related error recovery and packet reordering described in IETF RFC 2507 are not verified.

For PDCP testing TCP/IP data type and UDP/IP data type as Non-TCP/IP data types are applied for IP data.

An UE supporting IP Header compression protocol RFC 2507 shall be capable to store a header compression context of at least 512 bytes (Integer).

It shall be possible to reconfigure PDCP settings while UE test loop mode 1. With the applied test method using UE test loop mode 1, the UE as Originator and Receiver of PDCP SDUs (concurrent transmission) is tested.

## 7.3.1.2 Common Test sequences and Default message contents for PDCP

## General

The settings and parameter used in the "Common Test sequences for PDCP" are described in the "Default PDCP Message Contents". If not explicitly shown there, the message contents are identical with the default contents for the same message type of layer 3 messages for RRC tests, to establish a packet switched session or connection. The contents of test case specific message parameters are described in the test case (Expected Sequence). If not explicitly shown, default settings and parameter are used as message content for all Common Test sequences.

## 7.3.1.2.1 Common Test sequences for PDCP

7.3.1.2.1.1 Setup a UE terminated PS session using IP Header compression in AM RLC (using UE Test loop test mode 1)

## Initial Conditions

UE is in Idle mode.

## Test procedure

After having received the System Information, the SS starts to setup a RRC connection. After connection establishment and Radio Bearer Setup, the UE test loop mode 1 is activated and the UE test loop mode 1 is closed.

**Expected Sequence** 

Step	Direction	Message	Comments
-	UE SS		
1	÷	SYSTEM INFORMATION	
2	$\leftarrow$	PAGING TYPE 1	CN domain identity: PS domain
			Paging cause: interactive session
3	$\rightarrow$	RRC CONNECTION REQUEST	
4	÷	RRC CONNECTION SETUP	Connection Setup message PS sessions in AM
_			RLC used in RRC testing matches here
5	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	
6	÷		
7	$\rightarrow$	ACTIVATE RB TEST MODE COMPLETE	
8	÷	RADIO BEARER SETUP	The Radio Bearer configuration is as described
			IN 15 34.108, clause 6.10, Prioritised RAB No.
			23. QUS parameter. Trainc Class. Interactive of Background max III 64 kbps max DI 64 kbps
			Residual BER as described in TS 34 108
			clause: 6 10
9	$\rightarrow$	RADIO BEARER SETUP COMPLETE	
10	÷	CLOSE UE TEST LOOP	The SS initiates UE test loop mode 1, indicated
			by the Parameter: "UE test loop mode" 1
			(X1=0 and X2=0)
			The "DCCH dummy transmission" not used:
			disabled: (Y1=0)
11	$\rightarrow$	CLOSE UE TEST LOOP COMPLETE	After having received the test mode
			acknowledgement, the UE test loop mode 1 is
			activated.

#### Specific message contents

The contents of test case specific message parameters are described in the test case (Expected Sequence). Default contents of messages are described in the clause Default PDCP Message Contents.

7.3.1.2.1.2 Setup a UE terminated PS session using IP Header compression in UM RLC (using UE Test loop test mode 1)

Initial Conditions

UE is in idle mode.

Test procedure

After having received the System Information, the SS starts to setup a RRC connection. After connection establishment and Radio Bearer Setup, the UE test loop mode 1 is activated and the UE test loop mode 1 is closed.

**Expected Sequence** 

Step	Direction	Message	Comments
-	UE SS	1 -	
1	<b>←</b>	SYSTEM INFORMATION	
2	<b>←</b>	PAGING TYPE 1	CN domain identity: PS domain
			Paging cause: interactive session
3	$\rightarrow$	RRC CONNECTION REQUEST	
4	÷	RRC CONNECTION SETUP	Connection Setup message PS sessions in UM
			RLC used in RRC testing matches here
5	$\rightarrow$	RRC CONNECTION SETUP COMPLETE	
6	÷	ACTIVATE RB TEST MODE	
7	$\rightarrow$	ACTIVATE RB TEST MODE COMPLETE	
8	←	RADIO BEARER SETUP	The Radio Bearer configuration is as described
			in TS 34.108, clause 6.10, Prioritised RAB No.
			23: QoS parameter: Traffic Class: Interactive or
			Background, max. UL:64 kbps max. DL:64 kbps,
			Residual BER as described in TS 34.108,
0			clause: 6.10.
9	7		The OO initiates UE test lass made 4 indicated
10	<b>—</b>	CLOSE DE TEST LOOP	I ne SS Initiates UE test loop mode 1, indicated
			by the Parameter. DE test loop mode 1 (XT=0
			The "DCCH dummy transmission" not used:
			disabled: (V1-0)
11	<u>د</u>		After baying received the test mode
11			acknowledgement the LIE test loop mode 1 is
			activated
11	÷	CLOSE UE TEST LOOP COMPLETE	by the Parameter: "UE test loop mode 1, indicating the Parameter: "UE test loop mode 1" (X and X2=0) The "DCCH dummy transmission" not used: disabled: (Y1=0) After having received the test mode acknowledgement, the UE test loop mode 1 activated.

#### Specific message contents

The contents of test case specific message parameters are described in the test case (Expected Sequence) Default contents of messages are described in the clause Default PDCP Message Contents.

7.3.1.2.1.3 Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)

#### **Initial Conditions**

UE is in connected mode, a UE test loop mode 1 for PDCP is activated, and the UE loop mode 1 is "closed".

## Test procedure

The UE opens the UE test loop mode 1, deactivates the test mode and the PS session, releases the Radio Bearer and enters Idle mode.

Step	Direction	Message	Comments
	UE SS		
1	÷	OPEN UE TEST LOOP	The SS terminates the UE test loop mode 1, (see described parameter)
2	$\rightarrow$	OPEN UE TEST LOOP COMPLETE	After having received the test mode acknowledgement, the test loopmode 1 is deactivated.
3	÷	DEACTIVATE RB TEST MODE	SS deactivates the RB test mode
4	$\rightarrow$	DEACTIVATE RB TEST MODE COMPLETE	UE shall confirm the previous message. Afterwards, the UE returns to normal operation
5	$\leftarrow$	RRC CONNECTION RELEASE	SS terminates the connection
6	$\rightarrow$	RRC CONNECTION RELEASE	UE confirms the connection release and returns to Idle mode

The contents of test case specific message parameter is described in the test case (Expected Sequence). Default contents of messages are described in the clause Default PDCP Message Contents.

## 7.3.1.2.2 Default PDCP Message Contents

This clause contains the default values of RRC messages used for PDCP testing, other than those specified in TS 34.108 clauses 6 and 9, and default values of PDCP messages. Unless indicated otherwise in specific test cases, only PDCP related specific message contents are described here which shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test. If not explicitly described, the message contents are identical with the default contents for the same message type of layer 3 messages for RRC tests, to establish a packet switched session or connection.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

#### **Default SYSTEM INFORMATION:**

NOTE: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type "GSM-MAP"), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and INFORMATION BLOCK TYPE 16 messages are not used.

Contents of CONNECTION SETUP message:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement - System specific capability update requirement list	TRUE UE only supports 1 system

Contents of CONNECTION SETUP COMPLETE message:

Information Element	Value/remark
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings
- Conformance test compliance     - PDCP Capability     - Max PDCP SN     - Support of lossless SRNS relocation	
- <u>Supportion</u> RFC2507 - Max HC context space - Maximum MAX_HEADER - Maximum TCP_SPACE - Maximum NON_TCP_SPACE	(TCP_SPACE + NON_TCP_SPACE))
<ul> <li>RLC Capability</li> <li>Transport channel capability</li> <li>RF Capability</li> <li>Physical channel capability</li> </ul>	
- Security Capability - LCS Capability - Measurement capability	
DE system specific capability	information for the supported system

## Contents of ACTIVATE RB TEST MODE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000100B

## Contents of ACTIVATE RB TEST MODE COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000101B

## Contents of DEACTIVATE RB TEST MODE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000110B

## Contents of DEACTIVATE RB TEST MODE COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000111B

Contents of CLOSE UE TEST LOOP message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	0100000B
UE test loop mode	000000100B (X2=0 and X1=0 for UE test mode 1, Y1=0
	DCCH dummy transmission disabled)
UE test loop mode 1 LB setup	
- Length of UE loop mode 1 LB setup IE	4 octets
- LB setup list	
- LB setup RAB subflow #1	
<ul> <li>Z13Z0 (Uplink RLC SDU size in bits)</li> </ul>	016383 (binary coded, Z13 most significant bit); value
	as negotiated

Contents of CLOSE UE TEST LOOP COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000001B

#### Contents of OPEN UE TEST LOOP message:

Information Element	Value/remark
IE Identifier (only in AM)	1000xxxx
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000010B

#### Contents of OPEN UE TEST LOOP COMPLETE message:

Information Element	Value/remark
Protocol Discriminator	TS 24.007, 11.2.3.1.1
Skip indicator	TS 24.007, 11.2.3.1.2
Message type	01000011B

## 7.3.2 IP Header Compression and PID assignment

## 7.3.2.1 UE in RLC AM

- 7.3.2.1.1 Transmission of uncompressed Header
- 7.3.2.1.1.1 Definition and applicability

Applicable for all UEs supporting RLC AM and a Radio Bearer as described in the Common Test Sequences. The UE shall be capable to deal with TCP/IP and UDP/IP data packets with uncompressed IP header.

#### 7.3.2.1.1.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

- PID value 0 is reserved permanently for no compression

Reference(s)

TS 25.323 clause 5.

TS 25.323 clause 5.1.1.

## 7.3.2.1.1.3 Test purpose

The test case consists of two test procedures:

The first test procedure verifies, that the "PDCP Data" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers. The second test procedure verifies, that the "PDCP No header" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers.

- 1. To verify, that the UE transmits and receives in acknowledged mode (RLC AM) TCP/IP and UDP/IP data packets without IP header compression as configured by higher layers.
- 2. To verify, that PID assignment rules are correctly applied, if usage of "PDCP Data" PDU are negotiated, i.e. the UE shall recognize PID value = 0 for a received TCP/IP and UDP/IP data packet and it shall use PID=0 to transmit IP data packets, if no IP header compression is negotiated. If usage of "PDCP No Header" PDU is negotiated, no PID assignment is used for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.1.1.4 Method of test

Initial conditions

UE is in idle mode.

Test procedure 1: Usage of "PDCP Data" PDU and no IP header compression is configured

Test procedure 2: No IP header compression is configured

Related ICS/IXIT Statement(s)

Support of PS - Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet1

## 1. Test procedure: Transmission of uncompressed IP header packets using PDCP Data PDU

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.
- b) The SS sends a TCP/IP data packet with uncompressed IP Header.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP Data PDU.
- d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.
- e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

The SS deactivates the UE test loop mode and terminates the connection.

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Step	Direction	Message	Comments
	UE SS		
S	etup a UE tei	minated PS session using IP Header compres	sion in AM RLC (using UE test loop mode 1)
			The SS creates a TCP/IP packet without IP header compression (PDCP Data PDU).
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction	Message	Comments
	UE SS		
2	$\rightarrow$	PDCP Data	The UE sends a PDCP Data PDU using the
			RLC-AM-Data-Request Primitive with the
			following content back to the SS:
			data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
			The SS creates a UDP/IP packet without IP header compression (PDCP Data PDU).
3	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet
	Dooctivata	a LIE terminated DS species using ID blackers	After reception of this UDP/IP data packet, the SS decodes the received data
1	Deactivate	a UE terminated PS session using IP Header (	compression (using UE test loop mode 1)

## RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

#### RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB Information to setup	20
- PDCP info	20
- Support of lossless SRNS relocation	False (IE " Support of lossless SRNS relocation " only present, if RLC "In-sequence delivery" is TRUE and in AM)
- PDCP PDU header	present
- RLC info	
- Downlink RLC mode	(AM RLC)

## Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 2. Test procedure: Transmission of uncompressed IP header packets using No Header PDU

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP No Header" PDU has been configured by higher layers.
- b) The SS sends a TCP/IP data packet with uncompressed IP Header.

- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP No Header PDU.
- d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.
- e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.
- f) The SS deactivates the UE test loop mode and terminates the connection.

Step	Direction	Message	Comments
	UE SS		
S	Setup a UE terminated PS session using IP Header compression in AM RLC (using UE test loop mode 1)		
			The SS creates a TCP/IP packet without IP header compression (PDCP No Header PDU).
1	÷	PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: data: below described TCP/IP packet
			After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the TCP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
			The SS creates a UDP/IP packet without IP header compression (PDCP No Header PDU).

Step	Direction	Message	Comments
	UE SS		
3	÷	PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: data: below described UDP/IP packet
			After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the UDP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	<i>→</i>	PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS decodes the received data
	Deactivate	a UE terminated PS session using IP Header	compression (using UE test loop mode 1)

## **RRC CONNECTION SETUP message**

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

## RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108) PS domain 20
- CN domain identity	
- RB information to setup	
- RD Idenily	False
- Support of lossless SRNS relocation	(IE "Support of lossless SRNS relocation " only present, if RLC "In-sequence delivery" is TRUE and in AM) absent
- PDCP PDU header	
- RLC info	(AM RLC)
- Downlink RLC mode	

Content of PDCP No Header PDU (Step 1)

Information Element	Value/remark
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to 5 Kbytes 1500 bytes.

Content of PDCP No Header PDU (Step 3)

	Information Element	Value/remark
Data		PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data
		shall be limited to 5 Kbytes 1500 bytes.

## 7.3.2.1.1.5 Test requirements

## 1. Test requirements: Transmission of uncompressed IP header packets using PDCP Data PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP Data PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

## 2. Test requirements: Transmission of uncompressed IP header packets using PDCP No Header PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP No Header PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

## 7.3.2.1.2 Transmission of compressed Header

## 7.3.2.1.2.1 Definition and applicability

Applicable for all UEs supporting RLC AM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol RFC 2507.

## 7.3.2.1.2.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

## Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1.

## 7.3.2.1.2.3 Test purpose

- 1. To verify, that the UE transmits and receives in acknowledged mode (RLC AM) TCP/IP and UDP/IP data packets by using IP header compression protocol as described in RFC2507 as configured by higher layers.
- 2. To verify, that the PID assignment rules are correctly applied by the UE. The UE as shall use the correct PID value for the applied optimisation method for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.1.2.4 Method of test

## Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and IP header compression is configured

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS - Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

PIXIT: Test_PDCP_UDP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet2

#### Test procedure

a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC AM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.

- b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.
- NOTE: According to the compression protocol RFC 2507, this is necessary to transmit the created CONTEXT and the assigned CID.
- f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- g) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- h) The SS sends a TCP/IP data packet with packet type: Compressed_TCP, PID=2.
- i) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- j) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- k) Step b) to d) is repeated for a "normal" UDP/IP data packet, PID=0.
- 1) Step e) to g) is repeated for a UDP/IP data packet with packet type: Full_Header, PID=1.
- m) The SS sends a UDP/IP data packet with packet type: Compressed_non_TCP, PID=4.
- n) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- o) The SS receives and decodes the UDP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- p) The SS deactivates the UE tests loop mode 1 and terminates the connection.

Step	Direction UE SS	Message	Comments
S	Setup a UE ter	minated PS session using IP Header compres	sion in AM RLC (using UE test loop mode 1)
		<u>_</u>	The SS creates a TCP/IP packet without IP header compression.
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 1 applied for this TCP/IP data packet and decompresses it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction	Message	Comments
	UE US		
4	→ →	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3
			data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
5	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 2 (Compressed_TCP packet type) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 2 applied for this TCP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
6	<b>→</b>	PDCP Data	The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity. The UE sends a PDCP Data PDU using the
			RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 () data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
			The SS creates a UDP/IP packet without compressed IP header compression.
7	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.

Step	Direction	Message	Comments
	UE SS		
8	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.

Step	Direction	Message	Comments
	UESS		
9	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and
			decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to
			the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
10	÷	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
11	¢	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 4 (Compressed _non-TCP packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 4 applied for this UDP/IP data packet and decompress it with the appropriate method.
			The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
12	÷	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
	Deactivate	a UE terminated PS session using IP Header of	compression (using UE test loop mode 1)

#### **RRC CONNECTION SETUP message**

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	TRUE
	NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

## RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108) PS domain
- CN domain identity	
- RB Information to setup	20
	20
- Support of lossless SRNS relocation	False
	(IF "Support of lossless SRNS relocation " only present.
	if RLC "In-sequence delivery" is TRUE and in AM)
- PDCP PDU header	present
- Header compression information	1
CHOICE algorithm type	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_ICP_SPACE	15 (Default)
	reordering expected reordering not expected (Default)
- KLU INIO	
- DOWNIINK KLU MODE	

Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes 1500 bytes</del> .

## Content of PDCP Data PDU (Step 5)

Information Element	Value/remark
PDU type	000
PID	00010 (Compressed_TCP, PID = 2)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 7)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 9)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes<u>1500 bytes</u>.</del>

## Content of PDCP Data PDU (Step 11)

Information Element	Value/remark
PDU type	000
PID	00100 (Compressed_non-TCP, PID = 4)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes<u>1500 bytes</u>.</del>

## 7.3.2.1.2.5 Test requirements

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled with the correct compression protocol. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

## 7.3.2.2 UE in RLC UM

## 7.3.2.2.1 Transmission of uncompressed Header

## 7.3.2.2.1.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with TCP/IP and UDP/IP data packets with uncompressed IP header.

7.3.2.2.1.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

- PID value 0 is reserved permanently for no compression

Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1.

#### 7.3.2.2.1.3 Test purpose

The test case consists of two test procedures:

The first test procedure verifies, that the "PDCP Data" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers. The second test procedure verifies, that the "PDCP No header" PDU is used for uncompressed IP header packets, if no IP header compression is configured by higher layers.

- 1. To verify, that the UE transmits and receives in unacknowledged mode (RLC UM) TCP/IP and UDP/IP data packets without IP header compression as configured by higher layers.
- 2. To verify, that PID assignment rules are correctly applied, if usage of "PDCP Data" PDU are negotiated, i.e. the UE shall recognize PID value = 0 for a received TCP/IP and UDP/IP data packet and it shall use PID=0 to transmit IP data packets, if no IP header compression is negotiated. If usage of "PDCP No Header" PDU is negotiated, no PID assignment is used for transmitting and receiving TCP/IP and UDP/IP data packets.

## 7.3.2.2.1.4 Method of test

Initial conditions

UE is in Idle mode.

Test procedure 1: Usage of "PDCP Data" PDU and no IP header compression is configured

Test procedure 2: no IP header compression is configured

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Related ICS/IXIT Statement(s) Support of PS – Yes/No PIXIT: Test_PDCP_TCP/IP_Packet1 PIXIT: Test_PDCP_UDP/IP_Packet1

## 1. Test procedure: Transmission of uncompressed IP header packets using PDCP Data PDU

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.
- b) The SS sends a TCP/IP data packet with uncompressed IP Header.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP Data PDU.
- d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.
- e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.

The SS deactivates the UE test loop mode and terminates the connection.

Step	Direction	Message	Comments
	UE SS		
S	etup a UE ter	minated PS session using IP Header compres	sion in UM RLC (using UE test loop mode 1)
			The SS creates a TCP/IP packet without IP header compression (PDCP Data PDU).
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
			The SS creates a UDP/IP packet without IP header compression (PDCP Data PDU).

Step	Direction	Message	Comments
	UE SS		
3	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	÷	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS decodes the received data
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)		

**RRC CONNECTION SETUP message** 

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

## RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108) PS domain
- CNI domain identity	21
- RB information to setup	present
- PDCP info - PDCP PDU header - RLC info - Downlink RLC mode	(UM RLC)

## Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, $PID = 0$ )
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 3)

1

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes 1500 bytes</del> .

#### 2. Test procedure: Transmission of uncompressed IP header packets using No Header PDU

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP No Header" PDU has been configured by higher layers.
- b) The SS sends a TCP/IP data packet with uncompressed IP Header.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PDCP PDU type and shall handle the received data packet with the appropriate decoding method. Then it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration using PDCP No Header PDU.
- d) The SS receives and decodes the TCP/IP data packet. The decoded data packet shall be identical with the data as sent before.
- e) Step b) to d) shall be repeated by using a UDP/IP data packet with uncompressed IP Header.
- f) The SS deactivates the Loop back test mode and terminates the connection.

Step	Direction		Message	Comments
	UE	SS		
S	etup a l	JE ter	minated PS session using IP Header compres	sion in UM RLC (using UE test loop mode 1)
				The SS creates a TCP/IP packet without IP header compression (PDCP No Header PDU).
1	÷		PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: data: below described TCP/IP packet
				After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the TCP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
				The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	÷		PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received TCP/IP packet
				After reception of this TCP/IP data packet, the SS applies the appropriate decoding function for the received data
				The SS creates a UDP/IP packet without IP header compression (PDCP No Header PDU).

Step	Direction	Message	Comments
	UE SS		
3	÷	PDCP No Header	The SS sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: data: below described UDP/IP packet
			After having received the PDCP No Header PDU, the UE decodes the PDU and recognizes, there was no PID applied for the UDP/IP packet. Therefore, no IP header decompression shall be applied for this packet. Then, the data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	<i>→</i>	PDCP No Header	The UE sends a PDCP No Header PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: data: previously received UDP/IP packet After reception of this UDP/IP data packet, the
			SS decodes the received data
	Deactivate a	a UE terminated PS session using IP Header of	compression (using UE test loop mode 1)

## RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

## RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fits to the below described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity - RB information to setup	PS domain
- RB identity - PDCP info	21
	False
- PDCP PDU header - RLC info	absent
- Downlink RLC mode	(UM RLC)

## Content of PDCP No Header PDU (Step 1)

Information Element	Value/remark
Data	PDCP test data type #1: TCP/IP data packet without IP header compression with any data content. The data shall be limited to <del>5 Kbytes</del> 1500 bytes.

## Content of PDCP No Header PDU (Step 3)

1

Information Element	Value/remark
Data	PDCP test data type #2: UDP/IP data packet without IP header compression with any data content. The data shall be limited to <del>5 Kbytes</del> 1500 bytes.

## 7.3.2.2.1.5 Test requirements

## 1. Test requirements: Transmission of uncompressed IP header packets using PDCP Data PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP Data PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

## 2. Test requirements: Transmission of uncompressed IP header packets using PDCP No Header PDU

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled correctly (PDCP No Header PDU). This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

## 7.3.2.2.2 Transmission of compressed Header

## 7.3.2.2.2.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol RFC 2507.

## 7.3.2.2.2.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

Reference(s)

TS 25.323 clause 5.

TS 25.323 clause 5.1.1.

#### 7.3.2.2.2.3 Test purpose

- 1. To verify, that the UE transmits and receives in unacknowledged mode (RLC UM) TCP/IP and UDP/IP data packets by using IP header compression protocol as described in RFC2507 as configured by higher layers.
- 2. To verify, that the PID assignment rules are correctly applied by the UE. The UE as shall use the correct PID value for the applied optimisation method for transmitting and receiving TCP/IP and UDP/IP data packets.

7.3.2.2.2.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS - Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

PIXIT: Test_PDCP_UDP/IP_Packet1

PIXIT: Test_PDCP_UDP/IP_Packet2

Test procedure

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data" PDU has been configured by higher layers.
- b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

- d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.
- NOTE: According to the compression protocol RFC 2507, this is necessary to transmit the created CONTEXT and the assigned CID.
- f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- g) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- h) The SS sends a TCP/IP data packet with packet type: Compressed_TCP, PID=2.
- i) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- j) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- k) Step b) to d) is repeated for a "normal" UDP/IP data packet, PID=0.
- 1) Step e) to g) is repeated for a UDP/IP data packet with packet type: Full_Header, PID=1.
- m) The SS sends a UDP/IP data packet with packet type: Compressed_non_TCP, PID=4.
- n) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decompression protocol. Then, it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- o) The SS receives and decodes the UDP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- p) The SS deactivates the UE test loop test mode and terminates the connection.

Step	Direction	Message	Comments
S	etup a UE teri	minated PS session using IP Header compres	sion in UM RLC (using UE test loop mode 1)
		Timated i Cooston doing in Treader compres	The SS creates a TCP/IP packet without IP header compression.
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression is applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type [TCP/IP]) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 1 applied for this TCP/IP data packet and decompresses it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.

Step	Direction	Message	Comments
	UE   SS		The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
4	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
5	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 2 (Compressed_TCP packet type) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU, recognizes PID value = 2 applied for this TCP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
6	÷	PDCP Data	The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity. The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
7			The SS creates a UDP/IP packet without compressed IP header compression.
			RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes with PID value = 0, there was no IP header compression applied for the UDP/IP packet. Therefore, no IP header decompression is applied for this packet. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.

Step	Direction	Message	Comments
	UE   SS		The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
8	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
9	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 1 (Full_Header packet type) data: below described UDP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and decompress it with the appropriate method.
			The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
10	→	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: below described UDP/IP packet
			After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
11	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 4 (Compressed _non-TCP packet type) data: below described UDP/IP packet After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 1 applied for this UDP/IP data packet and decompress it with the appropriate method. The data packet is forwarded via PDCP-SAP to the Radio Bearer Loop Back (RB LB) entity.

Step	Direction	Message	Comments
Step	Direction UE SS	Message PDCP Data	Comments The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity. The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (Data PDU with Header) PID value = 0,1 or 4 (depending on which UDP/IP header format is used by the UE) data: previously received UDP/IP packet
			After reception of this UDP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
	Deactivate	a UE terminated PS session using IP Header of	compression (using UE test loop mode 1)

## **RRC CONNECTION SETUP message**

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement	TRUE
	compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

## RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity - PDCP info	21
	False
<ul> <li>PDCP PDU header</li> <li>Header compression information</li> <li>CHOICE algorithm type</li> <li>RFC2507</li> </ul>	present 1
- F_MAX_PERIOD - F_MAX_TIME - MAX_HEADER	<ul><li>256 (Default)</li><li>5 (Default)</li><li>168 (Default)</li></ul>
- TCP_SPACE - NON_TCP_SPACE - EXPECT_REORDERING	15 (Default) 15 (Default) reordering expected reordering not expected (Default)
- RLC info	belauning expected (Delaun)
- Downlink RLC mode	(UM RLC)

## Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

## Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes<u>1500 bytes</u>.</del>
Content of PDCP Data PDU (Step 5)

Information Element	Value/remark
PDU type	000
PID	00010 (Compressed_TCP, PID = 2)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### Content of PDCP Data PDU (Step 7)

1

1

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### Content of PDCP Data PDU (Step 9)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### Content of PDCP Data PDU (Step 11)

Information Element	Value/remark
PDU type	000
PID	00100 (Compressed_non-TCP, PID = 4)
Data	PDCP test data type #2: UDP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 7.3.2.2.2.5 Test requirements

The UE shall return the TCP/IP and UDP/IP data packets as indication, that the previous packets have been received and handled with the correct compression method. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

#### 7.3.2.2.3 Extension of used compression methods

#### 7.3.2.2.3.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore to establish a PDCP entity which applies IP header compression protocol: RFC 2507.

#### 7.3.2.2.3.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

The PDCP layer shall be able to support several header compression protocols and it shall always be possible to extend the list of supported protocols in the future.

The table (PID value allocation table) is reconfigured every time the PDCP entity is reconfigured, with a change in the supported header compression protocols.

The assignment of the PID values follow the general rules listed below:

- PID values are reassigned for the PDCP entity after renegotiation of the header compression protocols;
- the list of negotiated (or re-negotiated) header compression entities shall be examined, starting from the first one in the list. The number of PID values to be assigned is specified in the clause for this protocol.

#### Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1

#### 7.3.2.2.3.3 Test purpose

1. To verify, that the UE is able to handle an extended PID value allocation table after PDCP reconfiguration as configured by RRC.

#### 7.3.2.2.3.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured

#### Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS – Yes/No

PIXIT: Test_PDCP_TCP/IP_Packet1

PIXIT: Test_PDCP_TCP/IP_Packet2

#### Test procedure

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions (with the UE test loop mode 1). Usage of "PDCP Data PDU" and no optimisation method has been configured by higher layers.
- b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.

- d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- e) The SS reconfigures (using RRC Radio Bearer Reconfiguration message) the PDCP entity by extending the PID value allocation table and therefore the applied optimisation method with the IP header compression protocol RFC 2507. The UE test loop mode 1 in RLC UM is still active.
- f) The SS sends a TCP/IP data packet (no compression packet type), PID=0.
- g) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- h) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- i) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.
- j) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- k) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- 1) The SS deactivates the UE test loop mode and terminates the connection.

# Expected sequence

Step	Direction UE SS	Message	Comments
S	etup a UE teri	minated PS session using IP Header compres	sion in UM RLC (using UE test loop mode 1)
	·		The SS creates a TCP/IP packet without IP header compression.
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression shall be applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	÷	RRC RADIO BEARER RECONFIGURATION	SS extends the "PID value allocation table" with IP header compression PID (RFC 2507) in the UE.
4	$\rightarrow$	RRC RADIO BEARER RECONFIGURATION COMPLETE	UE acknowledges the new settings
5	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-UM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (normal packet type [TCP/IP]) data: below described TCP/IP packet. After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression shall be applied for this packet. The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity. The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its
			PDCP entity.

Step	Direction	Message	Comments		
	UE SS				
6	$\rightarrow$	PDCP Data	The UE sends a PDCP Data PDU using the		
			RLC-UM-Data-Request Primitive with the		
			following content back to the SS:		
			PDU type = 000 (PDCP Data PDU)		
			PID value = 0 to 3		
			data: previously received TCP/IP packet		
			After reception of this TCP/IP data packet, the		
			SS applies the appropriate decoding function		
			depending on the assigned PID.		
7	÷	PDCP Data	The SS sends a PDCP Data PDU using the		
			RLC-UM-Data-Request Primitive with the		
			following content to the UE:		
			PDU type = 000 (PDCP Data PDU)		
			PID = 1 (Full_Header packet type [TCP/IP])		
			data: below described TCP/IP packet		
			After having received the PDCP Data PDU, the		
			UE decodes the PDU and recognizes PID value		
			= 1 applied for this TCP/IP data packet and shall		
			decompress it with the appropriate method.		
			The data packet is forwarded via PDCP-SAP to		
			its Radio Bearer Loop Back (RB LB) entity.		
			The RB LB entity in UE test loop mode 1 returns		
			the received data packet and sends it back to its		
			PDCP entity.		
8	$\rightarrow$	PDCP Data	The UE sends a PDCP Data PDU using the		
			RLC-UM-Data-Request Primitive with the		
			following content back to the SS:		
			PDU type = 000 (PDCP Data PDU)		
			PID value = 0 to 3		
			data: previously received TCP/IP packet		
			After reception of this TCP/IP data packet. the		
			SS applies the appropriate decoding function		
			depending on the assigned PID.		
	Deactivate a UE terminated PS session using IP Header compression (using UE test loop mode 1)				

#### Specific Message Contents

#### **RRC RADIO BEARER RECONFIGURATION message**

The contents of the RRC RADIO BEARER RECONFIGURATION message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark		
RB information to reconfigure list	1		
RB information to reconfigure			
- PDCP info			
- PDCP PDU header	present		
- Header compression information	1		
CHOICE algorithm type			
- RFC2507			
- F_MAX_PERIOD	256 (Default)		
- F_MAX_TIME	5 (Default)		
- MAX_HEADER	168 (Default)		
- TCP_SPACE	15 (Default)		
- NON_TCP_SPACE	15 (Default)		
- EXPECT_REORDERING	reordering expected reordering not expected (Default)		

#### **RRC CONNECTION SETUP message**

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

#### RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity - RB information to setup	PS domain
- RB identity - PDCP info	21
- PDCP PDU header	present
- RLC info	
- Downlink RLC mode	(UM RLC)

#### Content of PDCP Data PDU (Step 1 and 5)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### Content of PDCP Data PDU (Step 7)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 7.3.2.2.3.5 Test requirements

After PDCP reconfiguration, the UE shall return the TCP/IP data packets as indication, that the extension of used optimisation method are applied by UE. This verifies, that the PDCP configuration on UE side works as negotiated by the RRC.

### 7.3.2.2.4 Compression type used for different entities

#### 7.3.2.2.4.1 Definition and applicability

Applicable only for an UE supporting the establishment of more than one PDCP entity in parallel, i.e. it shall be possible to configure more than one Radio Bearer Loop Back entities (each PDCP entity are assigned via PDCP-SAP to its own Radio Bearer Loop Back entity).

Applicable for all UEs supporting two Radio Bearers in RLC UM and RLC AM as described in this test case, clause 7.3.2.2.4.6 Combined PDCP Acknowledged and Unacknowledged mode configuration.

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore it shall apply IP header compression protocol RFC 2507.

#### 7.3.2.2.4.2 Conformance requirement

Packet Data Convergence Protocol shall perform the following functions:

- ...

- transfer of user data. Transmission of user data means that PDCP receives PDCP SDU from the NAS and forwards it to the RLC layer and vice versa;

- PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol.

The assignment of the PID values follow the general rules listed below:

- PID values are assigned independently to each PDCP entity;

Different PDCP entities may include header compression protocols of the same type

#### Reference(s)

TS 25.323 clause 5

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1

#### 7.3.2.2.4.3 Test purpose

NOTE: For this test case, the SS shall be configured to handle more than one received PDCP messages.

1. To verify, that a configured IP header compression protocol are applied to compress and decompress TCP/IP data packets by several PDCP entities in parallel, if more than one entities are established, i.e. the UE uses the same PID to transmit two TCP/IP data packets with the same content in parallel using two Radio Bearer configurations.

#### 7.3.2.2.4.4 Method of test

Initial conditionsUE is in Idle mode. Usage of "PDCP Data" PDU and IP header compression is configured for both PDCP entities.

Related ICS/IXIT Statement(s)

Establishment of more than one PDCP entities - YES/NO

Support of IP header compression protocol RFC 2507 - YES/NO

Support of UM RB and AM RB

#### Support of PS - Yes/No

#### IXIT: Test_PDCP_TCP/IP_Packet1

#### IXIT: Test_PDCP_TCP/IP_Packet2

#### Test procedure

- a) The SS setups a packet switched session including two radio bearer configurations in parallel in UE test loop mode 1 and in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of IP header compression protocol RFC 2507 has been configured by higher layers.
- b) The SS sends two successive a "normal" TCP/IP data packet, PID=0 via both PDCP configurations to their peer entities.
- c) After having received the TCP/IP data packets, the PDCP entities of the UE shall recognize the PID value and shall handle the received data packet independent of the used PID with the correct decompression method. Then they forward the data to their Radio Bearer Loop Back entity. Both received data shall be returned by each Radio Bearer Loop Back entity.
- d) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.
- e) After having received the TCP/IP data packets, the PDCP entities of the UE shall recognize the PID value and shall handle the received data packets independent of the used PID with the correct decompression method. Then they forward the data to their Radio Bearer Loop Back entity. Both received data shall be returned by each Radio Bearer Loop Back entity.
- f) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.
- g) The SS deactivates the UE test loop mode and terminates the connection.

Step	Step Direction		Message	Comments	
	UE	SS	C C		
S	Setup a UE terminated PS session using IP Header compression in UM RLC (using UE test loop mode 1)				
1		<del>.</del>	PDCP Data	The SS sends two successive a PDCP Data PDU using the RLC-UM-Data-Request Primitive via both PDCP entities with the following contents to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet After having received both PDCP Data PDUs, the UE decodes each PDU and recognizes PID value = 0 (no IP header compression applied for both TCP/IP data packets). Although the same PID is used for both PDUs, the UE shall handle they with the correct method and it forwards both data packets via PDCP-SAPs to their Radio Bearer Loop Back (RB LB) entities. The RB LB entities in UE test loop mode 1 return the received data packets and send they back to their PDCP entities.	

#### Expected sequence

Step	Direction	Message	Comments
	UE SS		
2	$\rightarrow$	PDCP Data	The UE sends back for each PDCP
			configuration a PDCP Data PDU using the RLC-
			UM-Data-Request Primitive with the following
			Content back to the SS:
			PDU type = 000 (PDCP Data PDU)
			PID value = 0 to 3 data: providually received $TCD/ID$ product
			After reception of TCP/IP data packets, the SS
			applies the appropriate decoding function for
			both received messages depending on which
			PID was assigned to the received data
3	÷	PDCP Data	The SS sends two successive a PDCP Data
			PDU using the RLC-UM-Data-Request Primitive
			via both PDCP entities with the following
			contents to the UE:
			PDU type = 000 (PDCP Data PDU)
			PID = 1 (Full_Header packet type [1CP/IP])
			data. below described TCP/IP packet
			After having received both PDCP Data PDUs.
			the UE decodes each PDU and recognizes PID
			value = 1 (Full_Header packet type applied for
			both TCP/IP data packets).
			Although the same PID is used for both PDUs,
			the UE shall handle they with the correct
			method and it forwards both data packets via
			PDCP-SAPs to their Radio Bearer Loop Back
			(RB LB) entities.
			The RB LB entities in UE test loop mode 1
			return the received data packets and send they
			back to their PDCP entities.
4	$\rightarrow$	PDCP Data	The UE sends back for each PDCP
	*		configuration a PDCP Data PDU using the RI C-
			UM-Data-Request Primitive with the following
			content back to the SS:
			PDU type = 000 (PDCP Data PDU)
			PID value = 0 to 3
			data: previously received TCP/IP packet
			After reception of TCP/IP data packets, the SS
			applies the appropriate decoding function for
			both received messages depending on which
			PID was assigned to the received data
	Deactivate	a UE terminated PS session using IP Header of	compression (using UE test loop mode 1)

## Specific Message Contents

#### RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	
	NOTE: Value will be checked. Stated capability must be
	COMPatible with 34.123-2 (C.I. PICS/PIXIT statements in
	GSIVI) and the user settings

#### RADIO BEARER SETUP message

1

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info - RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC configuration for UM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB information to setup - RB identity	20
- PDCP info	
- PDCP PDU header - Header compression information	present 1
CHOICE algorithm type	
- RFC2507 - F_MAX_PERIOD - F_MAX_TIME - MAX_HEADER - TCP_SPACE - NON_TCP_SPACE - EXPECT_REORDERING - RLC info	256       (Default)         5       (Default)         168       (Default)         15       (Default)         15       (Default)         reordering expected reordering not expected       (Default)
- Downlink RLC mode - RB information to setup	(AM RLC) (NOTE: for RB ID 21, the same RAB configurations are used (No. # 23 as described in TS 34.108) as described
- RB identity	for RB ID 20) 21
- PDCP Into - PDCP PDU header - Header compression information CHOICE algorithm type - RFC2507	present 1
- F_MAX_PERIOD - F_MAX_TIME - MAX_HEADER	256 (Default) 5 (Default) 168 (Default) 15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	reordering expected reordering not expected (Default)
- KLC INTO - Downlink RLC mode	(UM RLC)

Content of both PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### Content of both PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes<u>1500 bytes</u>.</del>

#### 7.3.2.2.4.5 Test requirements

The UE shall return both TCP/IP data packets as indication that the previous received data packets associated with the same PID value are handled in parallel with the same decompression protocol. This verifies, that more than one PDCP configuration on UE side using the same compression protocol is able to apply it in parallel.

# 7.3.2.2.4.6 Combined PDCP Acknowledged and Unacknowledged mode configuration

This configuration is based on the interactive or background / UL:64 DL 64 kbps / PS RAB. The SRB configurations are UL:3.4 DL:3.4 kbps for DCCH aligned to this combined RABs are described for SRB DL 3.4 kbps in TS 34.108, clause 6.10.2.4.1.2.2 and for SRB DL 3.4 kbps in TS 34.108, clause 6.10.2.4.1.2.1. The TFCS refer to TS34.108, clause 6.10.2.4.1.24.1.1.3 for UL and clause 6.10.2.4.1.25.2.1.3 for DL, the Physical channel parameters refer to TS 34.108, clause 6.10.2.4.1.24.1.2 for UL clause 6.10.2.4.1.25.2.2 and for DL accordingly. The configuration is applied to PDCP test cases using both the acknowledged and unacknowledged mode.

Higher layer	RAB/Signalling RB		RAB #20	RAB #21	
RLC	Logical cha	annel type		DTCH	DTCH
	RLC mode	* •		AM	UM
	Payload siz	zes, bit		316	324
	Max data r	ate, bps		63200	64800
	TrD PDU h	eader, bit		16	8
MAC	MAC head	er, bit		4	
	MAC multip	blexing		2 logical channel multiplexing	
Layer 1	TrCH type			DCH	
	TB sizes, b	it		3	36
	TFS	TF0, bits		0x	336
		TF1, bits		1x	336
			CR page	19	

Table 7.3.2.2.4/1 Uplink Transport channel parameter for combined RABs PS AM_UM

	TF2, bits	2x336
	TF3, bits	3x336
	TF4, bits	4x336
TTI, ms		20
Coding type	9	TC
CRC, bit		16
Max numbe	er of bits/TTI after channel coding	4236
Uplink: Max rate matchi	k number of bits/radio frame before ng	2118
RM attribute	e	130-170

Table 7.3.2.2.4/2 Downlink Transport channel parameter for combined RABs PS AM_UM

Higher layer	RAB/Signalling RB		RAB #20	RAB #21
RLC	Logical channel type		DTCH	DTCH
	RLC mode	9	AM	UM
	Payload s	izes, bit	316	324
	Max data	rate, bps	63200	64800
	TrD PDU I	header, bit	16	8
MAC	MAC head	der, bit	4	1
	MAC mult	iplexing	2 logical channel multiplexing	
Layer 1	er 1 TrCH type		DCH	
	TB sizes, bit		336	
	TFS	TF0, bits	0x3	336
		TF1, bits	1x3	336
		TF2, bits	2x3	336
		TF3, bits	3x336	
		TF4, bits	4x336	
TTI, ms			20	
	Coding type		TC	
	CRC, bit		16	
	Max numb	per of bits/TTI after channel coding	4236	
RM attribute		ite	130-	170

## 7.3.2.2.5 Reception of not defined PID values

#### 7.3.2.2.5.1 Definition and applicability

Applicable for all UEs supporting RLC UM and a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP data packets and furthermore to establish a PDCP entity, which applies PDCP Data PDU if no IP header compression protocol, is negotiated.

The UE shall not forward invalid PDCP PDU data contents to its Radio Bearer.

#### 7.3.2.2.5.2 Conformance requirement

PDCP shall be able (...) to handle them with a correct header compression protocol and furthermore to indicate the type of the packet within a certain protocol;

PID values that are used and are not defined invalidate the PDCP PDU;

Reference(s)

TS 25.323 clause 5.1.1

TS 25.323 clause 5.1.2.1

#### 7.3.2.2.5.3 Test purpose

1. To verify, that a UE considers a received PDCP PDU message with not defined PID value as invalid, i.e. such an invalid PDCP PDU is not forwarded to the Radio Bearer entity on UE side. Therefore the UE using test loop mode 1 does not return such data packet to the SS.

#### 7.3.2.2.5.4 Method of test

Initial conditions

UE is in Idle mode. Usage of "PDCP Data" PDU and no IP header compression is configured.

#### Related ICS/IXIT Statement(s)

Support of IP header compression protocol RFC 2507 - YES/NO

Support of PS - Yes/No

IXIT: Test_PDCP_TCP/IP_Packet1

IXIT: Test_PDCP_TCP/IP_Packet2

#### Test procedure

- a) The SS setups a packet switched session including radio bearer and UE test loop mode 1 in RLC UM using Common test procedures for mobile terminated PS switched sessions. Usage of "PDCP Data PDU" and no PDCP IP header compression protocol has been configured by higher layers.
- b) The SS sends a "normal" TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decoding method. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- d) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.
- e) The SS sends a TCP/IP data packet with packet type: Full_Header, PID=1.
- f) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet with the correct decoding method.
- g) The SS waits an amount of time to make sure, that no returned data packet was sent by UE.
- h) The SS deactivates the UE test loop mode and terminates the connection.

# Expected sequence

#### Specific Message Contents

#### **RRC CONNECTION SETUP message**

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

#### RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in UM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for UM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for UM RLC Residual BER as described in TS 34.108, clause: 6.10
	Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
<ul> <li>- CN domain identity</li> <li>- RB information to setup</li> </ul>	PS domain
- RB identity - PDCP info	21
- PDCP PDU header - RLC info	present
- Downlink RLC mode	(UM RLC)

#### Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, $PID = 0$ )
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

I

Content of PDCP Data PDU (Step 3)

Information Element	Value/remark
PDU type	000
PID	00001 (Full_Header, PID = 1)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 7.3.2.2.5.5 Test requirements

The UE shall return the received TCP/IP data packet using the PDCP Data PDU with PID = 0 as indication, that the UE works as configured.

The UE shall not return the TCP/IP data packet using the PDCP Data PDU with PID = 1 as indication, that this PDU was considered as invalid by the UE. This verifies, that the PDCP configuration on UE side has considered this PDU as invalid.

# 7.3.3 PDCP sequence numbering when lossless SRNS Relocation

#### 7.3.3.1 Data transmission if lossless SRNS Relocation is supported

#### 7.3.3.1.1 Definition and applicability

Applicable for all UEs supporting RLC AM, RLC in-sequence delivery, a Radio Bearer as described in the Common Test Sequences and lossless SRNS relocation.

The UE shall be capable to deal with uncompressed TCP/IP data packets and furthermore to establish a PDCP entity which applies PDCP Sequence Numbering

#### 7.3.3.1.2 Conformance requirement

The PDCP layer shall carry out the following functions during lossless SRNS relocation:

- support PDCP sequence numbering as specified in clause 5.4.1.

The PDCP layer shall carry out the following during lossless SRNS relocation:

- provide unconfirmed PDCP SDUs and sequence numbers for forwarding to the target RNC.

#### Reference(s)

TS 25.323 clause 5.4

#### 7.3.3.1.3 Test purpose

1. To verify, that a UE supporting lossless SRNS relocation is able to receive and to send IP data packets by using PDCP Sequence Numbering as configured by higher layers.

#### 7.3.3.1.4 Method of test

#### Initial conditions

SS: 2 cells - Cell A belonging to the valid SRNS (Source SRNS), Cell B belonging to the DRNS (Target SRNS). Both cells are neighbour cells. Cell A has a higher RF power level than Cell B such that an UE shall find Cell A more suitable for service.

UE: It is in Idle mode and has selected cell A with valid SRNS (Source SRNS). Usage of "PDCP Data" PDU and no IP header compression is configured

Related ICS/IXIT Statement(s) Support of lossless SRNS Relocation - YES/NO Support of PS – Yes/No IXIT: Test_PDCP_TCP/IP_Packet1 IXIT: Test_PDCP_TCP/IP_Packet2

#### Test procedure

- a) The SS setups a packet switched session including Radio Bearer and UE test loop mode 1 in RLC AM and insequence delivery using Common test procedures for mobile terminated PS switched sessions in Cell A. Usage of "PDCP Data" PDU, support of lossless SRNS relocation and no IP header compression has been configured by higher layers. The PDCP SN window size has been negotiated by RRC.
- b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.
- e) The SS starts to broadcast BCCH messages on the primary CPICH in cell B with a power level higher than in cell A. The UE shall chose cell B to be more suitable for service and hence perform a cell reselection.
- f) After completion of cell reselection, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH of cell B with the Cell update cause "Cell Reselection".
- g) After having performed SRNS relocation (target RNC allocated with new S-RNTI for the UE), the Target SRNS is the valid SRNS and the SS sends a "CELL UPDATE CONFIRM" message with new RNC_ID to indicate the completion of the cell update.
- h) The UE shall confirm the reallocation.
- i) The SS sends the next TCP/IP data packet (no compression packet type), PID=0 using the "PDCP Data" PDU to the UE.
- j) After having received the TCP/IP data packet, the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- k) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.
- 1) The SS deactivates the UE test loop mode and terminates the connection.

# Expected sequence

Step	Direction	Message	Comments
Setup	a UE termina	Ited PS session using IP Header compression	IN AM RLC (USING UE test loop mode 1) IN Cell A
			header compression.
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression shall be applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3			The SS increases the RF power level of cell B and decreases the power level of Cell A such that the UE finds cell B more suitable for service.
4			The UE cell reselection is performed and Cell B are selected for service.
5	÷	RRC CELL UPDATE	Then, the UE shall inform the SS about the new cell selection by sending cell update with new parameters (parameter values as used in RRC testing).

6       ✓       RRC CELL UPDATE CONFIRM       After having performed SRMS Target SRNS is the valid SRI sends a "CELL UPDATE COW" with new parameter "RNC_ID completion of SRNS relocation used in RRC testing).         7       →       RNTI REALLOCATION COMPLETE       The UE confirms the newly re (parameters as used in RRC         8       ←       PDCP Data       The SS sends the next PDCF the RLC-AM-Data-Request P following content to the UE: PDU type = 000 (PDCP Data PID = 0 (uncompressed IP he data: below described TCP/IF After having received the PDU uE decodes the PDU and received the PDU and receiv	ents
6       ←       RRC CELL UPDATE CONFIRM       After having performed SRNS Target SRNS is the valid SR sends a "CELL UPDATE COWith new parameter "RNC_ID completion of SRNS relocation used in RRC testing).         7       →       RNTI REALLOCATION COMPLETE       The UE confirms the newly re (parameters as used in RRC         8       ←       PDCP Data       The SS sends the next PDCF the RLC-AM-Data-Request P following content to the UE: PDU type = 000 (PDCP Data PID = 0 (uncompressed IP he data: below described TCP/IF After having received the PDU and rec = 0 (no IP header decc applied for this packet.	
7       →       RNTI REALLOCATION COMPLETE       The UE confirms the newly re (parameters as used in RRC)         8       ←       PDCP Data       The SS sends the next PDCP the RLC-AM-Data-Request P following content to the UE: PDU type = 000 (PDCP Data PID = 0 (uncompressed IP he data: below described TCP/IF	NS relocation, the SRNS and the SS CONFIRM" message _ID" to indicate the ation (parameters as
8 ← PDCP Data The SS sends the next PDCF the RLC-AM-Data-Request P following content to the UE: PDU type = 000 (PDCP Data PID = 0 (uncompressed IP he data: below described TCP/IF After having received the PDU UE decodes the PDU and red = 0 (no IP header compression Therefore, no IP header deco applied for this packet. The data packet is forwarded its Radio Bearer Loop Back (	y received information RC testing).
<ul> <li>9 → PDCP Data</li> <li>The RB LB entity in UE test to the received data packet and PDCP entity.</li> <li>9 The UE sends a PDCP Data</li> </ul>	DCP Data PDU using it Primitive with the ata PDU) header) P/IP packet PDCP Data PDU, the recognizes PID value ssion ) ecompression shall be ded via PDCP-SAP to ck (RB LB) entity. st loop mode 1 returns and sends it back to its ata PDU using the
RLC-AM-Data-Request Primi following content back to the PDU type = 000 (PDCP Data PID value = 0 data: previously received TCI After reception of this TCP/IP SS applies the appropriate de depending on the assigned P	<ul> <li>imitive with the he SS:</li> <li>ata PDU)</li> <li>TCP/IP packet</li> <li>P/IP data packet, the educoding function d PID.</li> </ul>

#### Specific Message Contents

## RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

#### RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC
	Residual BER as described in TS 34.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)
- CN domain identity	PS domain
- RB identity - PDCP info	20
- Max PDCP SN window size	65535
<ul> <li>Support of lossless SRNS relocation</li> </ul>	TRUE
- PDCP PDU header	present
- RLC info	
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	True

#### Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to <del>5 Kbytes<u>1500 bytes</u>.</del>

#### Content of PDCP Data PDU (Step 8)

1

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, $PID = 0$ )
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 7.3.3.1.5 Test requirements

After having sent the "RRC RNTI REALLOCATION COMPLETE", the UE shall return the received TCP/IP data packets as indication, that it supports lossless SRNS relocation. This implicitly verifies, that Sequence Numbering is used for lossless SRNS relocation.

# 7.3.3.2 Synchronisation of PDCP sequence numbers

#### 7.3.3.2.1 Definition and applicability

Applicable for all UEs supporting RLC AM, RLC in-sequence delivery, a Radio Bearer as described in the Common Test Sequences.

The UE shall be capable to deal with compressed TCP/IP and UDP/IP data packets and furthermore it shall be capable to use IP Header compression protocol RFC 2507.

#### 7.3.3.2.2 Conformance requirement

The PDCP SeqNum PDU shall be sent by the peer PDCP entities when synchronisation of the PDCP SN is required. (...) Synchronisation of PDCP SN is required after (...) RB reconfiguration.

#### Reference(s)

TS 25.323 clause 5.4

#### 7.3.3.2.3 Test purpose

1. To verify, that the UE supporting lossless SRNS relocation as configured by higher layers is able to handle the "PDCP SeqNum" PDU to synchronize the used PDCP Sequence Number after reconfiguration of the Radio Bearer.

#### 7.3.3.2.4 Method of test

#### Initial conditions

SS: 2 cells - Cell A belonging to the valid SRNS (Source SRNS), Cell B belonging to the DRNS (Target SRNS). Both cells are neighbour cells. Cell A has a higher RF power level than Cell B such that an UE shall find Cell A more suitable for service.

UE: It is in Idle mode and has selected cell A with valid SRNS (Source SRNS). Usage of "PDCP Data" PDU, "PDCP SeqNum" PDU and no IP header compression is configured

#### Related ICS/IXIT Statement(s)

Support of lossless SRNS relocation - YES/NO

Support of RLC in-sequence delivery - YES/NO

#### Test procedure

- a) The SS setups a packet switched session including Radio Bearer and UE test loop mode 1 in RLC AM and insequence delivery using Common test procedures for mobile terminated PS switched sessions in Cell A. Usage of "PDCP Data" PDU, support of lossless SRNS relocation and no IP header compression has been configured by higher layers. The PDCP SN window size has been negotiated by RRC.
- b) The SS sends a TCP/IP data packet (no compression packet type), PID=0.
- c) After having received the TCP/IP data packet, the PDCP entity of the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- d) The SS receives and decodes the TCP/IP data packet according to the inserted PID. The decoded data packet shall be identical with the data as sent before.

- e) The SS reconfigures (using RRC Radio Bearer Reconfiguration message) the PDCP entity by extending the PID value allocation table and therefore the applied optimisation method with the IP header compression protocol RFC 2507. The UE test loop mode 1 in RLC AM is still active.
- f) The SS sends the next TCP/IP data packet (no compression packet type), PID=0 using the "PDCP SeqNum" PDU including the current PDCP Sequence Number value to the UE.
- g) After having received the TCP/IP data packet, the UE shall recognize the PID value and shall handle the received data packet correctly. Afterwards it forwards the data to its Radio Bearer Loop Back entity. The received data shall be returned by the UE via its PDCP configuration.
- h) The SS receives and decodes TCP/IP data packets according to the inserted PID. The decoded data packets shall be identical with the data as sent before.
- i) The SS deactivates the UE test loop mode and terminates the connection.

Expected sequence

Step	Direction	Message	Comments
	UE SS		
Setup	a UE termina	ted PS session using IP Header compression	in AM RLC (using UE test loop mode 1) in Cell A
			The SS creates a TCP/IP packet without IP header compression.
1	÷	PDCP Data	The SS sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content to the UE: PDU type = 000 (PDCP Data PDU) PID = 0 (uncompressed IP header) data: below described TCP/IP packet
			After having received the PDCP Data PDU, the UE decodes the PDU and recognizes PID value = 0 (no IP header compression ) Therefore, no IP header decompression shall be applied for this packet.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
2	<i>→</i>	PDCP Data	The UE sends a PDCP Data PDU using the RLC-AM-Data-Request Primitive with the following content back to the SS: PDU type = 000 (PDCP Data PDU) PID value = 0 data: previously received TCP/IP packet
			After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.
3	÷	RRC RADIO BEARER RECONFIGURATION	SS extends the "PID value allocation table" with IP header compression PID (RFC 2507) in the UE.
4	$\rightarrow$	RRC RADIO BEARER RECONFIGURATION COMPLETE	UE acknowledges its new settings

Step	Direction	Message	Comments
	UE SS		
5	÷	PDCP SeqNum	The SS sends a PDCP SeqNum PDU including its current Sequence Number with the following content to the UE: PDU type = 001 (PDCP SeqNum PDU) PID = 0 (normal packet type [TCP/IP]) SeqNum = current PDCP Sequence Number data: below described TCP/IP packet
			After having received the PDCP SeqNum PDU, the UE shall set the received PDCP Sequence Number as its own valid value. It decodes the PDU, recognizes PID value = 0 applied for this TCP/IP data packet and shall decompress it with the appropriate method.
			The data packet is forwarded via PDCP-SAP to its Radio Bearer Loop Back (RB LB) entity.
			The RB LB entity in UE test loop mode 1 returns the received data packet and sends it back to its PDCP entity.
6	→	PDCP PDU	The UE sends a PDCP PDU with PDCP Header back to the SS. The content is as follows: PDU type = 000 (PDCP Data PDU) PID value = 0 to 3 SeqNum: current UE value, (optional parameter, depending on the used PDU) data: previously received TCP/IP packet.
	Deactivate	a LIF terminated PS session using IP Header	After reception of this TCP/IP data packet, the SS applies the appropriate decoding function depending on the assigned PID.

Specific Message Contents

#### **RRC RADIO BEARER RECONFIGURATION message**

The contents of the RRC RADIO BEARER RECONFIGURATION message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	1
RB information to reconfigure	
- PDCP info	
- Max PDCP SN window size	65535
<ul> <li>Support of lossless SRNS relocation</li> </ul>	TRUE
- PDCP PDU header	present
<ul> <li>Header compression information</li> </ul>	1
CHOICE algorithm type	
- RFC2507	
- F_MAX_PERIOD	256 (Default)
- F_MAX_TIME	5 (Default)
- MAX_HEADER	168 (Default)
- TCP_SPACE	15 (Default)
- NON_TCP_SPACE	15 (Default)
- EXPECT_REORDERING	reordering expected reordering not expected (Default)

#### RRC CONNECTION SETUP message

The contents of the RRC CONNECTION SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) with the following exceptions:

Information Element	Value/remark
Capability update requirement	
- UE radio access capability update requirement	TRUE NOTE: Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings

#### RADIO BEARER SETUP message

The contents of the RADIO BEARER SETUP message applied in the preamble "Setup a UE terminated PS session using IP Header compression in AM RLC" of this test case is identical to those of the default contents of layer 3 messages for RRC tests [TS 34.123-1] (PS connection for AM) which fit to the here described parameters with the following exceptions:

Information Element	Value/remark	
RAB information for setup		
- RAB info		
- RAB identity	No. # 23 as described in TS 34.108, Table 6.10.2.1.1 Prioritised RABs. QoS parameter: Traffic Class: Interactive or Background, max. UL: 64 kbps and max. DL: 64 kbps as described in TS 34.108, including described physical channel parameters, configuration for AM RLC	
	Residual BER as described in TS 24.108, clause: 6.10 Related Signalling RB UL: 3.4 kbps, DL: 3.4 kbps DCCH, No. #2 (as described in TS 34.108)	
- CN domain identity	PS domain	
- RB identity - PDCP info	20	
- Max PDCP SN window size	65535	
<ul> <li>Support of lossless SRNS relocation</li> </ul>	TRUE	
- PDCP PDU header	present	
- RLC info		
- Downlink RLC mode	(AM RLC)	
- In-sequence delivery	True	

#### Content of PDCP Data PDU (Step 1)

Information Element	Value/remark
PDU type	000
PID	00000 (No header compression, PID = 0)
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

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Content of PDCP SeqNum PDU (Step 5)

Information Element	Value/remark
PDU type	001
PID	00000 (No header compression, PID = 0)
Sequence number	(16 Bit value) valid Sequence Number of the SS
Data	PDCP test data type #1: TCP/IP data packet without IP
	header compression with any data content. The data
	shall be limited to 5 Kbytes 1500 bytes.

#### 7.3.3.2.5 Test requirements

After having received the TCP/IP data packet conveyed with the "PDCP SeqNum" PDU, the UE shall return the TCP/IP data packets as indication, that the UE is able to handle a Sequence Number synchronisation.

# 3GPP TSG- T1 Meeting #14 Sophia Antipolis, France, 21st –22nd February 2002

# 3GPP TSG- T1 SIG Meeting #21 Sophia Antipolis, France, 18th-20th February 2002

								C	R-Form-v6.1
CHANGE REQUEST									
ж	TS 34	4.123-1	CR 134	жre	v -	ж	Current version	on: <b>4.1.0</b>	Ħ
	Sp	ec Title:	User Equipme	nt (UE) conf	ormance	spe	cification;		ж
	-		Part 1: Protoco	ol conformar	nce speci	ificati	ion		
For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.									
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network									
Title:	ж	Correction	ns to default me	essage cont	ent for Fl	DD			
Sauraa	എ	MCI							
Source:	ተ								
Work item cc	ode: #	TEI					Date:	18 th February	2002
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		Use <u>one</u> of F (con A (cor B (ado C (fun	the following cate rection) responds to a co lition of feature), ctional modificati	egories: rrection in an on of feature)	earlier rei	lease,	Use <u>one</u> of t 2 ( ) R96 ( R97 ( R98 (	he following rele 'GSM Phase 2) 'Release 1996) 'Release 1997) 'Release 1998)	ases:

Deta be fo	<b>D</b> (editorial modification) ailed explanations of the above categories can bund in 3GPP $\underline{\text{TR 21.900}}$ .	R99 REL-4 REL-5	(Release 1999) (Release 4) (Release 5)
Reason for change: ೫	If the gain factors are to be calculated, it is not needed.	eded to be inclu	ided in the message.
	Revision 1 corrections are highlighted in green:		
	For radio bearers mapped to RACH, "Explicit lis list.	t" is the only va	alid choice for RLC size
	Revision 2 corrections are highlighted in blue.		
Summary of change: ₩	IEs "Gain Factor" in IE "Power offset information gain factor is used instead of when signalled gain Factors" is set to "signalled gain factor", IE "Gair rate is less than 64 kbps and set to '9' if the data r •d" shall be set to '15' if IE "CHOICE Gain Factor	n" are set to not factor is used. I n factor ßc" shal ate is more thar prs" is set to "si	r present when computed If IE "CHOICE Gain Il be set to '11' if the data a 64 kbps. IE "Gain factor gnalled gain factor".
	Conditions for which the IEs are applicable is rev. message.	ised in RADIO	BEARER SETUP
	Downlink and uplink transport information eleme RECONFIGURATION message and TRANSPOR in the case where UE transit from CELL_FACH t	nts are added to RT CHANNEL o CELL_DCH.	D RADIO BEARER RECONFIGURATION,
	IE "CHOICE RLC size list" for radio bearer mapp list" in RRC CONNECTION SETUP message: U RADIO BEARER SETUP message: AM or UM (	ped to RACH is M (Transition t (condition A5 a	s changed to "Explicit to CELL_FACH) and in nd A6).
	The value of IE "CHOICE SF" is set to refer to T	S34.108 clause	6.10 Parameter Set

T1S-020019r2

	nstead of using 'otherwise'. Value of IE "Primary scrambling code" is set to refer to clause 6.1.	
Consequences if not approved:	# UE will be tested under wrong condition.	
Clauses affected:	육 Annex A	
Other specs affected:	Conter core specifications       %         Test specifications       %         O&M Specifications	
Other comments:	# Affects both R'99 and R'4 UE test cases.	

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# Annex A (normative): Default RRC Message Contents

# A.1 Default RRC Message Contents (FDD)

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

#### Default SYSTEM INFORMATION:

NOTE: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type "GSM-MAP"), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
Downlink counter synchronisation info	Not Present
Maximum allowed UL TX power	33dBm
Radio link addition information	Not Present
Radio link removal information	Not Present
TX Diversity Mode	None
SSDT information	Not Present

# Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

# Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink ACTIVE SET UPDATE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be abcent
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Refer to test requirement

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Checked to see if it is set to the following values
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be
	IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the LE
- CN domain identity	Checked to see if it is one of the supported CN domains
- START	Checked to see if it is present
AM RLC error indication (RB2 or RB3)	Checked to see if it is set to 'FALSE'
AM RLC error indication (RB>3)	Checked to see if it is set to 'FALSE'
Cell update cause	See the test content
Failure cause	Checked to see if it is absent
RB timer indicator	
- T314 expired	Checked to see if it is set to 'FALSE'
- T315 expired	Checked to see if it is set to 'FALSE'
Measured results on RACH	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Selects an arbitrary integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
<ul> <li>message authentication code</li> </ul>	SS calculates the value of MAC-I for this message and
	writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	Not Present – use default value
New U-RNTI	Not Present
New C-RN11	Not Present
RRC State indicator	CELL_FACH
UTRAN DRX cycle length coefficient	Not Present
RLC re-establish indicator (RB2 or RB3)	FALSE
RLC re-establish indicator (RB>3)	FALSE Not Dresent
URA Identity PR information to release list	Not Present
RD Information to reconfigure list	Not Present
RD information to be offected list	Not Present
RB Information to be affected list	Not Present
LIL Transport channel information common for all	Not Present
	Not riesent
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
CHOICE Mode	FDD
- CPCH set ID	Not Present
- Added or Reconfigured TrCH	Not Present
information for DRAC list	
DL Transport channel information common for all	Not Present
transport channels	
Deleted TrCH information list	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present
Maximum allowed UL TX power	Not Present
CHOICE channel requirement	Not Present
CHOICE mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

# Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an unused integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34 123-2 If integrity protection is indicated to be
	active this IF is present with the values of the sub IFs as
	stated below. Else this IF and the sub-IFs are omitted
Massage authentication code	Stated below. Lise, this is and the sub-is are officed.
- Message authentication code	writes to this IE
DDC maaaaaa aaguanaa numbar	SC provides the value of this IF, from its internal counter
- RRC message sequence number	
Measurement Command	l Catur
Measurement Command	Setup
Measurement Reporting Mode	A size such size direction and a DLO
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting	Event ingger
Additional measurement list	Not Present
CHOICE Measurement type	Intra-frequency measurement
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	1
- Cell info	
- Cell individual offset	0dB
<ul> <li>Reference time difference to cell</li> </ul>	Not Present
- Read SFN number	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	Different from the Default setting in TS34.108 clause 6.1
	(FDD)150
<ul> <li>Primary CPICH Tx power</li> </ul>	Not Present
<ul> <li>TX Diversity indicator</li> </ul>	FALSE
<ul> <li>Intra-frequency measurement quantity</li> </ul>	
- Filter coefficient	0
<ul> <li>Measurement quantity</li> </ul>	CPICH RSCP
<ul> <li>Intra-frequency reporting quantity</li> </ul>	
<ul> <li>Reporting quantities for active set cells</li> </ul>	
<ul> <li>SFN-SFN observed time difference reporting</li> </ul>	No report
indicator	
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE
indicator	
<ul> <li>Cell Identity reporting indicator</li> </ul>	TRUE
<ul> <li>CPICH Ec/N0 reporting indicator</li> </ul>	FALSE
<ul> <li>CPICH RSCP reporting indicator</li> </ul>	TRUE
<ul> <li>Pathloss reporting indicator</li> </ul>	FALSE
<ul> <li>Reporting quantities for monitored cells</li> </ul>	
<ul> <li>SFN-SFN observed time difference reporting</li> </ul>	No report
indicator	
<ul> <li>Cell synchronisation information reporting</li> </ul>	FALSE
indicator	
<ul> <li>Cell Identity reporting indicator</li> </ul>	TRUE
<ul> <li>CPICH Ec/N0 reporting indicator</li> </ul>	FALSE
<ul> <li>CPICH RSCP reporting indicator</li> </ul>	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cell within active set and/or monitored cells on
	used frequency
- Maximum number of reported cells	2
- Measurement validity	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	64 sec
DPCH Compressed mode status info	Not Present

# Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to the identical value for the same IE in the downlink MEASUREMENT CONTROL message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	See the test content

# Contents of MEASUREMENT REPORT message: AM

Information Element	Value/remark		
Message Type			
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.		
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.		
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.		
Measurement identity	1		
Measured Results			
<ul> <li>Intra-frequency measured results</li> </ul>			
<ul> <li>Cell measured results</li> </ul>			
- Cell Identity	Not present		
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is absent		
<ul> <li>Cell synchronisation information</li> </ul>	Checked that this IE is absent		
- Primary CPICH info			
- Primary scrambling code	Different from the Default setting in TS34.108 clause 6.1 (FDD)150		
- CPICH Ec/N0	Checked that this IE is absent		
- CPICH RSCP	Checked that this IE is present		
- Pathloss	Checked that this IE is absent		
Measured results on RACH	Checked that this IE is absent		
Additional measured results	Checked that this IE is absent		
Event results	Checked that this IE is absent		

Contents of PAGING TYPE 1 message: TM (SMS in CS)

Information Element	Value/remark	
Message Type		
Paging record list		
- Paging record		
<ul> <li>CHOICE Used paging identity</li> </ul>	CN identity	
- Paging cause	Terminating Low Priority Signalling	
<ul> <li>CN domain identity</li> </ul>	CS domain	
- CHOICE UE identity		
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the	
	TEST USIM card	
BCCH modification info	Not Present	

# Contents of PAGING TYPE 1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record list	
- Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	CN identity
- Paging cause	Terminating Low Priority Signalling
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI (GSM-MAP)	Set to the same octet string as in the IMSI stored in the
	TEST USIM card
BCCH modification info	Not Present

# Contents of PAGING TYPE 2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE
DBC massage acquance number	SC provides the value of this IF from its internal counter
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging record type identifier	Select the same type as in the IE "Initial UE Identity" in
	RRC CONNECTION REQUEST" message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3,	
	A4. A5. A6	
RRC transaction identifier	, , , , , , , , , , , , , , , , , , , ,	Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		with the values of the sub IEs as stated
		below. Else, this IE and the sub-IEs are
		omitted
- message authentication code		SS calculates the value of MAC-I for this
<b>3</b>		message and writes to this IE.
- RRC message sequence number		SS provides the value of this IE, from its
5		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A2, A3,	CELL_DCH
	A4	_
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3,	Not Present
, ,	A4, A5, A6	
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
Frequency info		
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE channel requirement	A5, A6	Not Present
CHOICE channel requirement	A1, A2, A3,	Uplink DPCH info
	A4	
<ul> <li>Uplink DPCH power control info</li> </ul>		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delay		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
- Scrambling code type		Long
- Scrambling code number		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10
		Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10
C C		Parameter Set
CHOICE Mode	A1, A2, A3,	FDD
	A4, A5, A6	
<ul> <li>Downlink PDSCH information</li> </ul>		Not Present
Downlink information common for all radio links	A1, A2, A3 <del>,</del>	
	<del>A</del> 4	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>		
- Timing indicator		Maintain
<ul> <li>CFN-targetSFN frame offset</li> </ul>		Not Present
<ul> <li>Downlink DPCH power control information</li> </ul>		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset PPilot-DPDCH		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reterence to IS34.108 clause 6.10
		Parameter Set
Information Element	Condition	Value/remark
--------------------------------------------------------	------------	------------------------------------------------
- Fixed or Elexible Position		Reference to TS34 108 clause 6 10
		Decemptor Cot
		raiameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
		Reference to TS3/ 108 clause 6 10
		Parameter Set Otherwise
<ul> <li>DPCH compressed mode info</li> </ul>		Not Present
- TX Diversity mode		None
SSDT information		Not Bresent
		Not Fresent
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	A4	
- Downlink DPCH info common for all PI		
- Timing indicator		Initialise
<ul> <li>CFN-targetSFN frame offset</li> </ul>		Not Present
- Downlink DPCH power control information		
DDC mode		O(aingle)
<u> </u>		<u>U (single)</u>
<u>- CHOICE mode</u>		FDD
- Power offset Pellot-DPDCH		0
DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
- Fixed or Elexible Position		Reference to TS34 108 clause 6 10
		Decemptor Cot
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
		Petereneo to TS24 109 eleuro 6 10
		Reference to 1554.100 clause 0.10
		Parameter Set <del>Otherwise</del>
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
<u>CODT information</u>		Not Dresent
- SSDT Information		Not Present
<u>- Default DPCH Offset Value</u>		Not Present
Downlink information common for all radio links	A5. A6	Not Present
Downlink information for each radio links	A 1	
	A2,A3,A4	
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34 108
Thinking bold holing bodo		eleves 0.4 (EDD)400
		<u>clause 6.1 (FDD)</u> +00
<ul> <li>PDSCH with SHO DCH info</li> </ul>		Not Present
<ul> <li>PDSCH code mapping</li> </ul>		Not Present
- Downlink DPCH info for each RI		
		Deimony OBIOLI many harmond
- Primary CPICH usage for channel estimation		Primary CPICH may be used
- DPCH frame offset		0 chips
- Power offset Peilot-DEDCH		0
- Secondary CPICH info		Not Present
		NULFICOCIL
- DL channelisation code		
<ul> <li>Secondary scrambling code</li> </ul>		5
- Spreading factor		Reference to TS34 108 clause 6 10
Sprouding labor		Parameter Set
		raiaiiielei Sel
- Code number		U
- Scrambling code change		No change
- TPC combination index		l o ŭ
		Not Dropont
- SSDT Cell Identity		NOLPIESENT
<ul> <li>Closed loop timing adjustment mode</li> </ul>		Not Present
- SCCPCH information for FACH		Not Present
Downlink information for each radio link	Δ <u>5</u>	
	AU	500
- Choice mode		טטא
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34 108
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RI		Not Present
- SUCPUH Information for FACH		NOT Present
- Downlink information for each radio link	A6	
- Choice mode		FDD
- Primary scrambling code		Different from the Default setting in TS34.108

Information Element	Condition	Value/remark
		<u>clause 6.1 (FDD)<del>150</del></u>
<ul> <li>PDSCH with SHO DCH info</li> </ul>		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- SCCPCH Information for FACH		Not Present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

## Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it's set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

## Contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink PHYSICAL CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement

# Contents of RADIO BEARER SETUP message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A4,	
	A5,	
	A6,A7,A8	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check into		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this is is
		stated below. Else, this IE and the sub-IEs as
		omitted
- message authentication code		SS calculates the value of MAC-I for this
moodage dation toda		message and writes to this IE.
- RRC message sequence number		SS provides the value of this IE, from its
5		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If ciphering is
		indicated to be active, this IE present with the
		values of the sub IEs as stated below. Else,
		this IE is omitted.
- Ciphering mode command		Start/restart
- Ciphering algorithm		Use one of the supported ciphering algorithms
- Ciphering activation time for DPCH		(256+CFIN-(CFIN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphening activation time		Not Present
IIIO		
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1,	CELL_DCH
	A4,A7,A8	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A4,	Not Present
	A5,	
ON information info	A6,A7,A8	Net Descard
CN INFORMATION INFO		Not Present
Signalling PB information to setup		Not Present
RAB information for setup	Δ1 Δ7	Not i lesent
- RAB info	A1,A/	
- RAB identity		0000 0001B
- CN domain identity		CS domain
- NAS Synchronization Indicator		Not Present
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		10
- PDCP info		Not Present

Information Floment	Condition	Volue/remark
	Condition	value/remark
- CHOICE RLC Info type		
- CHOICE Uplink RLC mode		IMRLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		IMRLC
- Segmentation indication		FALSE
- RB mapping info		
<ul> <li>Information for each multiplexing option</li> </ul>		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
<ul> <li>DL DSCH Transport channel identity</li> </ul>		Not Present
- Logical channel identity		Not Present
RAB information for setup	A8	
- RAB info		
- RAB identity		0000 0001B
- CN domain identity		CS domain
<ul> <li>NAS Synchronization Indicator</li> </ul>		Not Present
- Re-establishment timer		useT314
<ul> <li>RB information to setup</li> </ul>		
- RB identity		10
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
<ul> <li>Segmentation indication</li> </ul>		FALSE
<ul> <li>CHOICE Downlink RLC mode</li> </ul>		TM RLC
- Segmentation indication		FALSE
- RB mapping info		
<ul> <li>Information for each multiplexing option</li> </ul>		
- RLC logical channel mapping indicator		Not Present
<ul> <li>Number of uplink RLC logical channels</li> </ul>		1
- Uplink transport channel type		DCH
- UL Transport channel identity		1
- Logical channel identity		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		
- Number of downlink RLC logical channels		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		6
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
- RB identity		11
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		IMRLC
- Transmission RLC discard		Not Present
- Segmentation indication		FALSE
- CHOICE Downlink RLC mode		IMRLC
- Segmentation indication		FALSE
- KB mapping into		
- Information for each multiplexing option		Net Decent
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		
- Uplink transport channel type		DCH
- UL Transport channel identity		2
- Logical channel identity		Not Present
- CHOICE RLC size list		Contigured

Information Element	Condition	Value/remark
- MAC logical channel priority		1
<ul> <li>Downlink RLC logical channel info</li> </ul>		
<ul> <li>Number of downlink RLC logical channels</li> </ul>		1
- Downlink transport channel type		DCH
- DL DCH Transport channel identity		7 Not Dresset
- DL DSCH Transport channel identity		Not Present
- Dogical channel identity		
- PDCP info		Not Present
- CHOICE RLC info type		RLC info
- CHOICE Uplink RLC mode		TM RLC
- Transmission RLC discard		Not Present
<ul> <li>Segmentation indication</li> </ul>		FALSE
- CHOICE Downlink RLC mode		TM RLC
- Segmentation indication		FALSE
- RB mapping mile		
- RLC logical channel mapping indicator		Not Present
- Number of uplink RLC logical channels		1
- Uplink transport channel type		DCH
- UL Transport channel identity		3
<ul> <li>Logical channel identity</li> </ul>		Not Present
- CHOICE RLC size list		Configured
- MAC logical channel priority		1
- Downlink RLC logical channel info		1
- Number of downlink REC logical channels		
- DL DCH Transport channel identity		8
- DL DSCH Transport channel identity		Not Present
- Logical channel identity		Not Present
RAB information for setup	A4, A5, A6	
- RAB info		(AM DTCH for PS domain)
- RAB identity		0000 0101B
- CN domain identity		PS domain
- Re-establishment timer		useT314
- RB information to setup		
- RB identity		20
- PDCP info		Not Present
- CHOICE RLC into type		RLC info
- CHOICE UPIINK RLC mode		AM RLC
- CHOICE SDU discard mode		Max DAT retransmissions
- MAX_DAT		4
- Timer_MRW		100
- MaxMRW		4
- Transmission window size		8
- Timer_RST		500
- Max_RST		4
- Polling Into - Timer, poll, prohibit		200
- Timer_poll_profilbit		200
- Poll SDU		1
- Last transmission PDU poll		TRUE
- Last retransmission PDU poll		TRUE
- Poll_Windows		99
- CHOICE Downlink RLC mode		AM RLC
- In-sequence delivery		
- Receiving willow Size		o
- Timer status prohibit		200
- Timer EPC		200
- Missing PDU indicator		TRUE
- RB mapping info		
<ul> <li>Information for each multiplexing option</li> </ul>		2 RBMuxOptions
<ul> <li>RLC logical channel mapping indicator</li> </ul>		Not Present

I	Information Element	Condition	Value/remark
	Number of unlink DLC logical shannels	Condition	value/lelilaik
	- Number of uplink RLC logical channels		
	- Oplink transport channel identity		
	- OL Transport channel identity		I Not Procont
			Configured
	- CHOICE RLC SIZE IISI MAC logical channel priority		
	- MAC logical channel phonty Downlink PLC logical channel info		
	- Number of downlink RLC logical channels		1
	- Downlink transport channel type		
	- DU DCH Transport channel identity		6
	- DL DSCH Transport channel identity		Not Present
	- Logical channel identity		Not Present
	- RLC logical channel manning indicator		Not Present
	- Number of unlink RI C logical channels		1
	- Unlink transport channel type		RACH
	- UI Transport channel identity		Not Present
	- Logical channel identity		7
I	- CHOICE RI C size list		Explicit listConfigured
1			<u>Explicit loc</u> ooningulou
	- MAC logical channel priority		6
	- Downlink RLC logical channel info		
	- Number of downlink RLC logical channels		1
	- Downlink transport channel type		FACH
	- DL DCH Transport channel identity		Not Present
	- DL DSCH Transport channel identity		Not Present
	- Logical channel identity		Not Present
	RB information to be affected	A1, A4,	Not Present
		A5,	
		A6,A7,A8	
	Downlink counter synchronisation info	A1, A4,	Not Present
		A5,	
		A6,A7,A8	
	UL Transport channel information for all transport	A1,A4,A7,	
	channels	A8	
	- PRACH TFCS		Not Present
	- CHOICE mode		FDD
	- TFC subset		Not Present
	- UL DCH TFCS		
	- CHOICE TECI signalling		Normal
	- IFCI Field 1 information		O markete an enfirmention
	- CHOICE TECS representation		Complete reconfiguration
			Number of hits used must be enough to sever
			all combinations of CTEC from TS24 108
			all combinations of CTFC north 1334.100 clause 6 10 Parameter Set
	- CTEC information		This IF is repeated for TEC numbers and
			reference to TS34 108 clause 6 10 Parameter
			Set
	- CTFC		Reference to TS34,108 clause 6.10
			Parameter Set
	- Power offset information		
	- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to
			Signalled Gain Factors)
	- Gain factor •c		<u>11 (below 64 kbps)</u>
			9 (higher than 64 kbps) TBD
.,			(Not Present if the CHOICE Gain Factors is
			set to <u>Computed</u> Signalled Gain Factors)
	- Gain factor •d		18015
J			(Not Present if the CHOICE Gain Factors is
I	Reference TEC ID		set to <u>computed</u> signalied Gain Factors)
	- UNULE MOULE		Not Present
	- rower onset r p-m	A5 A6	Not Present
		A0, A0	
	- CHOICE mode		

Information Element	Condition	Value/remark
- TFC subset		
- UL DCH TFCS		
Deleted UL TrCH information	A1, A4, A5, A6 A7 A8	Not Present
Added or Reconfigured UL TrCH information - Uplink transport channel type - UL Transport channel identity - TES	A6,A7,A8 A1	DCH 1
- CHOICE Transport channel type - Dynamic Transport format information		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
<ul> <li>Transmission Time Interval</li> <li>Number of Transport blocks</li> </ul>		Not Present Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
<ul> <li>Semi-static Transport Format information</li> <li>Transmission time interval</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Set Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
<ul> <li>Uplink transport channel type</li> </ul>		DCH
- UL Transport channel identity		5
- TFS - CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Set Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
- CRC size		Reference to TS34.108 clause 6.10 Parameter
- Uplink transport channel type - UL Transport channel identity		DCH 1
- CHOICE Transport channel type		Dedicated transport channels
<ul> <li>Dynamic Transport format information</li> <li>RLC Size</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
· · · · · · · · · · · · · · · · · · ·		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval - Number of Transport blocks		NOT Present Reference to TS34.108 clause 6 10 Parameter
		Set
- CHOICE Logical Channel list		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
- Type of channel coding		Set Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Set Reference to TS34.108 clause 6.10 Parameter
- CRC size		Reference to TS34.108 clause 6.10 Parameter
Added or Reconfigured UL TrCH information	A8	4 TrCHs(DCH for DCCH and 3DCHs for DTCH)
- Uplink transport channel type - UL Transport channel identity - TFS - CHOICE Transport channel type		DCH 5 Dedicated transport channels
- Dynamic Transport format information - RLC Size		Reference to TS34.108 clause 6.10 Parameter
- Number of TBs and TTI List - Transmission Time Interval		Set (This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
<ul> <li>CHOICE Logical Channel list</li> <li>Semi-static Transport Format information</li> </ul>		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute		Set
		Set
- Uplink transport channel type - UL Transport channel identity - TFS		1 1
<ul> <li>CHOICE Transport channel type</li> <li>Dynamic Transport format information</li> </ul>		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
- Number of TBs and TTI List - Transmission Time Interval		(This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list     - Semi-static Transport Format information		
- Transmission time interval		Set
- Coding Rate		Set Reference to TS34 108 clause 6 10 Parameter
- Rate matching attribute		Set Reference to TS34.108 clause 6.10 Parameter
- CRC size		Set Reference to TS34.108 clause 6.10 Parameter
- Uplink transport channel type		Set DCH
- UL Transport channel identity - TFS		2
<ul> <li>CHOICE Transport channel type</li> <li>Dynamic Transport format information</li> </ul>		Dedicated transport channels
- RLC Size		Reference to TS34.108 clause 6.10 Parameter Set
<ul> <li>Number of TBs and TTI List</li> <li>Transmission Time Interval</li> </ul>		(This IE is repeated for TFI number.) Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
- CHOICE Logical Channel list		All
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
- Type of channel coding		Set Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Set Reference to TS34.108 clause 6.10 Parameter
		Set
- Rate matching attribute		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter Set
<ul> <li>Uplink transport channel type</li> <li>UL Transport channel identity</li> </ul>		DCH 3
- TFS		
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format Information - RLC Size		Reference to TS34.108 clause 6.10 Parameter
- Number of TBs and TTI List		Set (This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		Reference to TS24 108 cloures 6 10 Decemptor
- mansmission time interval		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
- CRC size		Reference to TS34.108 clause 6.10 Parameter
CHOICE mode		FDD
- CPCH set ID		Not Present
<ul> <li>Added or Reconfigured TrCH information for</li> </ul>		Not Present
DRAC list		
Added or Reconfigured UL TrCH information	A5, A6	Not Present
CHOICE mode	A1, A4, A5	FDD
	A6,A7,A8	
- CPCH set ID		Not Present
- Added or Reconfigured TrCH		Not Present
information for DRAC list		
DL Transport channel information common for all	A1,A7,A8	
transport channel		
- SCCPCH IFCS		Not Present
- CHOICE Mode		FDD Sameasl II
DL Transport channel information common for all	A4	
transport channel		
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters - DL DCH TFCS		Explicit
- CHOICE TFCI Signalling		Normal
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHUICE CIFC Size		all combinations of CTFC from clause
- CTEC information		IS34.108 clause 6.10 Parameter Set.
	1	

Information Floment	Condition	Value/remerk
Information Element	Condition	
0750		reference to 1S34.108 clause 6.10
- CTFC		Reference to 1S34.108 clause 6.10 Parameter
		Set
- Power offset information		Not Present
DL Transport channel information common for all	A5, A6	Not Present
transport channel		
- SCCPCH IFCS		
- CHOICE DL parameters		
Deleted DL TrCH information	A1, A4,	Not Present
	A5,	
	A6,A7,A8	
Added or Reconfigured DL TrCH information	A1	
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL IrCH identity		1
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	A4,A7	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		10
- CHOICE DL parameters		Same as UL
- Uplink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
<ul> <li>Downlink transport channel type</li> </ul>		DCH
- DL Transport channel identity		6
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTT List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Iransmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
		Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
True of the surely of the s		Set
- Type of channel coding		Reference to 1534.108 clause 6.10 Parameter
Cading Data		Set Deference to TS24.108 eleving 6.10 Decemptor
- Coding Rate		Set
Poto motohing attributo		Sel Reference to TS24 108 clause 6 10 Decemeter
- Rate matching attribute		Sot
- CPC size		Beference to TS34 108 clause 6 10 Parameter
- 6100 3126		Set
- DCH quality target		001
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Reconfigured DL TrCH information	48	A TrCHs(DCH for DCCH and 3DCHs for
	70	
- Downlink transport channel type		
- Downlink transport channel identity		10
- CHOICE DL parameters		Same as LII
- Unlink transport channel type		
- Uli TrCH identity		5
- DCH quality target		С С
		Not Present
- DLLIN Quality Value		Not Present
	1	INOLITESCIIL

Information Element	Condition	Value/remark
- Downlink transport channel type		DCH
- DL Transport channel identity		6
- CHOICE DI parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
<ul> <li>Number of Transport blocks</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		Set
<ul> <li>Semi-static Transport Format information</li> </ul>		
<ul> <li>Transmission time interval</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		Set
<ul> <li>Type of channel coding</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
- CRC size		Reference to 1S34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
- Downlink transport channel type		
- DL Transport channel identity		/ Evolicit
		Explicit
CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
		Reference to TS3/ 108 clause 6 10 Parameter
		Set
- Number of TBs and TTLL ist		(This IF is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
I I		Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
		0 Explicit
- IFU - CHOICE Transport channel typo		Dedicated transport channel
- OnOroc Transport Granter type		
- Dynamic transport format information - RLC Size		Reference to TS34 108 clause 6 10 Parameter
		Set
- Number of TBs and TTLL ist		(This IF is repeated for TFI number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6 10 Parameter
		Set

Information Element	Condition	Value/remark
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34 108 clause 6 10 Parameter
		Set
- Type of channel coding		Reference to TS3/ 108 clause 6 10 Parameter
		Sot
Coding Poto		Beforence to TS24 108 clause 6 10 Perameter
- Coully Rale		
Data matching attribute		Deference to TO24 409 clouce 6 10 Decemptor
- Rate matching autipute		
		Deference to TS24 409 cloures 6 10 Decemptor
- UKU SIZE		
		Set
		N-+ Dresent
- BLEK QUAlity value		Not Present
- Transparent mode signaling mo		Not Present
	А5, Аб	Not Present
Frequency info	A1, A4,	
	A5, A6	· · · · · · · · · · · · · · · · · · ·
- UARFCN uplink (Nu)		Reference to clause 5.1 Test trequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1, A4,	33dBm
	A5, A6 <mark>,</mark>	
	<u>A7, A8</u>	
CHOICE channel requirement	A1, A4 <mark>,</mark>	Uplink DPCH info
·	A7, A8	
- Uplink DPCH power control info		
- DPCCH power offset		-6dB
- PC Preamble		1 frame
- SRB delav		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
- Scrambling code type		Long
- Scrambling code number		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34 108 clause 6 10 Parameter
- spreading racion		
- TECI evistence		Peterence to TS34 108 clause 6 10 Parameter
Number of EBI bit		Potoronce to TS3/ 108 clause 6 10 Parameter
Duncturing Limit		Deference to TS3/ 108 clause 6 10 Parameter
CHOICE abannal requirement		Net Dropont
CHOICE Mode	A1, A4,	FDD
	A5,	
	A6,A7,A8	
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A1,	
	A4,A7,A8	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>		
- Timing indicator		Maintain
<ul> <li>CFN-targetSFN frame offset</li> </ul>		Not Present
<ul> <li>Downlink DPCH power control information</li> </ul>		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P _{Pilot-DPDCH}		0
- DL rate matching restriction information		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter
		Set
- TECI existence		Reference to TS34 108 clause 6 10 Parameter
		Set
- CHOICE SE		Reference to TS34 108 clause 6 10 Parameter
		SetOtherwise
CHOICE made		
		Net Present
- DFCH compressed mode mil		Non
		INDITE

[	Information Element	Condition	Value/remark
ľ	- SSDT information		Not Present
	- Default DPCH Offset Value		Not Present
	Downlink information common for all radio links	A5.A6	Not Present
	Downlink information for each radio link list	A1,A4,A7, A8	
	- Downlink information for each radio link		
	- Choice mode		FDD
	- Primary CPICH info		
	- Primary scrambling code		Ref. to the Default setting in TS34 108 clause
			6.1 (FDD) <del>100</del>
1	- PDSCH with SHO DCH info		Not Present
	- PDSCH code mapping		Not Present
	- Downlink DPCH info for each RI		
	- Primary CPICH usage for channel estimation		Primary CPICH may be used
	- DPCH frame offset		0 chips
	- Secondary CPICH info		Not Present
	- DL channelisation code		Not i resent
	- Secondary scrambling code		1
	- Spreading factor		Reference to TS34 108 clause 6 10 Parameter
			Set
	- Code number		
	- Scrambling code change		No change
	- TPC combination index		
	- SSDT Cell Identity		Not Present
	- Closed loop timing adjustment mode		Not Present
	- SCCPCH information for FACH		Not Present
ľ	Downlink information for each radio link list	A5	
	- Downlink information for each radio link	-	
	- Choice mode		FDD
	- Primary CPICH info		
	- Primary scrambling code		Ref. to the Default setting in TS34.108 clause
			6.1 (FDD) <del>100</del>
	- PDSCH with SHO DCH info		Not Present
	- PDSCH code mapping		Not Present
	- Downlink DPCH info for each RL		Not present
	- SCCPCH information for FACH		Not Present
	Downlink information for each radio link list	A6	
	<ul> <li>Downlink information for each radio link</li> </ul>		
	- Choice mode		FDD
	- Primary CPICH info		
	<ul> <li>Primary scrambling code</li> </ul>		Different from the Default setting in TS34.108
			<u>clause 6.1 (FDD)</u> <del>150</del>
	- PDSCH with SHO DCH info		Not Present
	- PDSCH code mapping		Not Present
	- Downlink DPCH info for each RL		Not present
	- SCCPCH information for FACH		Not Present

Condition	Explanation
A1	This IE need for "Non speech from CELL_DCH to CELL_DCH in CS"
A2 is defined in TS34.108 clause 9.	This IE need for "Speech from CELL_DCH to CELL_DCH in CS"
A3 is defined in TS34.108 clause 9.	This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4	This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5	This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6	This IE need for "Packet to CELL_FACH from CELL_FACH in PS"
A7	This IE need for "Non speech from CELL_FACH to CELL_DCH in CS"
A8	This IE need for "Speech from CELL_FACH to CELL_DCH in CS"

## Contents of RADIO BEARER SETUP FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER SETUP message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

## Contents of RADIO BEARER RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1,A2,A3,	
	A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs are
manage outboation and		omitted.
- message authentication code		SS calculates the value of MAC-1 for this
DDC maaaaaa aaguanaa numbar		message and writes to this IE.
- RRC message sequence number		SS provides the value of this IE, from its
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CEN-(CEN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A2, A3,	CELL_DCH
	A4	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1,A2,A3,	Not Present
	A4,A5,A6	
CN information info		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
RB information to reconfigure list	A1	IS25.331 specifies that "Although this IE is not
		always required, need is MP to align with
DD information to reconfigure		ASIN.1.
- RD Information to reconligure		
- PDCP info		I Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
<ul> <li>RB information to reconfigure</li> </ul>		(AM DCCH for NAS_DT High priority)

Information Element	Condition	Value/remark
- RB identity		3
- PDCP info		Not Present
- PDCP SN Info		Not Present
- RLC IIIIO PR manning info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		
- RD Identity		10 Not Present
- PDCP SN info		Not Present
- RI C info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A2	TS25.331 specifies that "Although this IE is not
-		always required, need is MP to align with
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC INTO PR manning info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB Information to reconfigure		(AM DCCH for NAS_DT High priority)
- PDCP info		S Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
<ul> <li>RB information to reconfigure</li> </ul>		(AM DCCH for NAS_DT Low priority)
- RB identity		4
- PDCP into		Not Present
- PDCP SN INTO PL C info		Not Present
- REC IIIIO		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
- RB identity		10
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping into		Not Present
- RB stop/continue		
- RB identity		
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(TM DTCH)
		(This IE is needed for 12.2 kbps and 10.2

Information Element	Condition	Value/remark
	Condition	
- RB identity		12
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
RB information to reconfigure list	A3.A4.A5.	TS25.331 specifies that "Although this IF is not
	A6	always required, need is MP to align with
		ASN.1".
- RB information to reconfigure		(UM DCCH for RRC)
- RB identity		1
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
<ul> <li>RB information to reconfigure</li> </ul>		(AM DCCH for RRC)
- RB identity		2
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
<ul> <li>RB information to reconfigure</li> </ul>		(AM DCCH for NAS_DT High priority)
- RB identity		3
- PDCP info		Not Present
- PDCP SN info		Not Present
- RLC info		Not Present
- RB mapping info		Not Present
- RB stop/continue		Not Present
- RB information to reconfigure		(AM DCCH for NAS_D1 Low priority)
- RB identity		4
- PDCP info		Not Present
- PDCP SN INFO		Not Present
- RLC INTO		Not Present
- RB mapping into		Not Present
- RD Stop/continue		
- RB information to reconfigure		
- RD Identity		20 Not Brocont
		Not Present
		Not Present
- RE mapping info		Not Present
- RB stop/continue		Not Present
RB information to be affected	Δ1 Δ2	Not Present
	A3.A4.A5	
	A6	
UL Transport channel information for all transport	A1, A2, A3	Not Present
channels	A4.A5.A6	
	,	
UL Transport channel information for all transport	<u>A3, A4</u>	
<u>channels</u>		
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure information		
- CHOICE CTEC Size		Number of bits used must be enough to cover
		all combinations of CTFC from 1S34.108
CTEC information		Clause 6. 10 Parameter Set.
		Inis IE is repeated for TFC numbers and
	1	reference to 1534.108 clause 6.10 Parameter

Information Element	Condition	Value/remark
		Set
<u> </u>		Reference to TS34.108 clause 6.10
		Parameter Set
<ul> <li>Power offset information</li> </ul>		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to
		Signalled Gain Factors)
<u>- Gain factor •c</u>		<u>11 (below 64 kbps)</u>
		<u>9 (higher than 64 kbps)</u>
		(Not Present if the CHOICE Gain Factors is
		set to ComputedGain Factors)
- Gain factor •d		$\frac{15}{(M_{\rm eff})}$
		(Not Present if the CHOICE Gain Factors is
Peference TEC ID		set to ComputedGain Factors)
- Power offset P n-m		Not Present
Deleted III. TrCH information	Δ1 Δ2 Δ3	Not Present
	A4 A5 A6	Not i resent
Added or Reconfigured LIL TrCH information		Not Present
	A4_A5.A6	Not i resent
Added or Reconfigured UL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type	<u></u>	DCH
- UL Transport channel identity		5
- TFS		-
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<ul> <li>Number of TBs and TTI List</li> </ul>		(This IE is repeated for TFI number.)
<ul> <li>Transmission Time Interval</li> </ul>		Not Present
<ul> <li>Number of Transport blocks</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to 1S34.108 clause 6.10 Parameter
Turne of chornel coding		Set
<u> </u>		Reference to 1534.106 clause 6.10 Parameter
- Coding Pate		Beference to TS34 108 clause 6 10 Parameter
		Set
- Rate matching attribute		Reference to TS34 108 clause 6 10 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Uplink transport channel type		DCH
- UL Transport channel identity		1
<u>- TFS</u>		
- CHOICE Transport channel type		Dedicated transport channels
<ul> <li>Dynamic Transport format information</li> </ul>		
<u> </u>		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTT List		(This IE is repeated for TFT number.)
- Transmission Time Interval		Not Present
		Reference to 1534.108 clause 6.10 Parameter
CHOICE Logical Channel list		
- Semi-static Transport Format information		All
- Transmission time interval		Reference to TS34 108 clause 6 10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
<u> </u>		Reference to TS34.108 clause 6.10 Parameter
		Set

Information Element	Condition	Value/remark
Added or Reconfigured UL TrCH information	A3	(DCH for DTCH)
- Uplink transport channel type		DCH
<ul> <li>UL Transport channel identity</li> </ul>		<u>1</u>
- TFS		De dise te ditas a serie de serie de
- CHOICE Transport channel type		Dedicated transport channels
- BLC Size		Reference to TS34 108 clause 6 10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to 1S34.108 clause 6.10 Parameter
- CHOICE Logical Channel list		
- Semi-static Transport Format information		<u>/</u>
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
<ul> <li>Type of channel coding</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
- Coding Rate		Sel Reference to TS34 108 clause 6 10 Parameter
		Set
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
		Set
<u> </u>		Reference to TS34.108 clause 6.10 Parameter
	A4 A0 A0	<u>Set</u>
	A1,A2,A3, A4 A5 A6	FDD
- CPCH set ID	/(+,/(0,/(0	Not Present
- Added or Reconfigured TrCH information for		Not Present
DRAC list		
DL Transport channel information common for all	A1, A2, <mark>A3,</mark>	Not Present
transport channel	A4,A5, A6	
DL Transport channel information common for all transport channel	<u>A3,A4</u>	
- SCCPCH TFCS		Not Present
- CHOICE mode		FDD
- CHOICE DL parameters		<u>Explicit</u>
- DL DCH TFCS		Normal
- CHOICE TFCI Signalling		Normai
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure		
- CHOICE CTFC Size		Number of bits used must be enough to cover
		all combinations of CTFC from clause
CTEC information		This IE is repeated for TEC numbers and
		reference to TS34.108 clause 6.10
- CTFC		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<u>Power offset information</u>		Not Present
Deleted DL TrCH information	A1, A2, A3,	Not Present
Added or Reconfigured DL TrCH information	A4, A5,A6 A1 A2 A3	Not Present
	A4,A5, A6	
Added or Reconfigured DL TrCH information	<u>A4</u>	2 TrCHs(DCH for DCCH and DCH for DTCH)
<ul> <li>Downlink transport channel type</li> </ul>		DCH
<u>- DL Transport channel identity</u>		<u>10</u> Sama as III
- Unlink transport channel type		DCH
- UL TrCH identity		5
- DCH quality target		-
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		
- CHOICE DL parameters		Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel

Information Element	Condition	Value/remark
	Condition	Value/Ternark
- Dynamic transport format information		
- RLC Size		Reference to 1S34.108 clause 6.10 Parameter
		Set
<ul> <li>Number of TBs and TTI List</li> </ul>		(This IE is repeated for TFI number.)
<ul> <li>Dynamic transport format information</li> </ul>		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
		Set
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34 108 clause 6 10 Parameter
		Sot
Type of channel opding		Beforence to TS24 109 clause 6 10 Decemeter
		Reference to 1554.100 clause 0.10 Parameter
		Set
- Coding Rate		Reference to 1S34.108 clause 6.10 Parameter
		Set
<ul> <li>Rate matching attribute</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
Added or Poconfigured DL TrCH information	<b>A</b> 2	
Added of Reconfigured DL Tron Information	<u>A3</u>	DCH
- Downlink transport channel type		
- DL Transport channel identity		
- CHOICE DL parameters		Explicit
<u> </u>		
<ul> <li><u>- CHOICE Transport channel type</u></li> </ul>		Dedicated transport channel
<ul> <li>Dynamic transport format information</li> </ul>		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTLList		(This IE is repeated for TEL number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS3/ 108 clause 6 10 Parameter
		Certerence to 1004.100 clause 0.101 alameter
Comi statia Transport Format information		
- Semi-static transport Format mormation		
- I ransmission time interval		Reference to 1534.108 clause 6.10 Parameter
		Set
<ul> <li>Type of channel coding</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<u>Coding Rate</u>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<ul> <li>Rate matching attribute</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality value		-6.3
- Transparent mode signalling info		Not Present
- Transparent mode signaling into	A1 AD AD	
Frequency mio	A1,AZ,A3,	
	A4,A5,A6	Defense to show 54 Test from a size
		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3,	33dBm
	A4,A5,A6	
CHOICE channel requirement	A1, A2, A3,	Uplink DPCH info
	A4	
-Uplink DPCH power control info		
DBCCH nower offect		CAP
- DECCE power onser		
- PC Preamble		
- SRB delay		/ trames
<ul> <li>Power Control Algorithm</li> </ul>		Algorithm1
- TPC step size		1dB
<ul> <li>Scrambling code type</li> </ul>		Long
- Scrambling code number		0 (0 to 16777215)

Information Element	Condition	Value/remark
	Condition	Not Drocont(1)
		Deference to TC24 400 eleves C 40 Decemeter
- spreading factor		Reference to 1534.106 clause 6.10 Parameter
		Deference to TC24 400 eleves C 40 Decemeter
- IFCI existence		Reference to 1534.106 clause 6.10 Parameter
Number of EDI bit		Sel Deference to TS24.108 cloures 6.10 Decemeter
- Number of FBI bit		Reference to 1534.108 clause 6.10 Parameter
		Set
- Puncturing Limit		Reference to 1534.108 clause 6.10 Parameter
		Set
CHOICE channel requirement	A5, A6	Not Present
CHOICE Mode	A1,A2,A3,	FDD
	A4,A5,A6	
- Downlink PDSCH information		Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1, A2, A3 <del>,</del>	
	<del>A</del> 4	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>		
- Timing indicator		Maintain
<ul> <li>CFN-targetSFN frame offset</li> </ul>		Not Present
<ul> <li>Downlink DPCH power control information</li> </ul>		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset PPilot-DPDCH		0
<ul> <li>DL rate matching restriction information</li> </ul>		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10 Parameter
		Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter
		Set
- CHOICE SE		Reference to TS34.108 clause 6.10 Parameter
		SetOtherwise
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information common for all radio links	Δ.4	
- Downlink DPCH info common for all RI	<u>~4</u>	
- Downlink Dr Offinio common for all IXE		Initialize
- CEN-targetSEN frame offset		Not Present
Downlink DPCH nowor control information		
DPC mode		0 (single)
Power offset Participation		
<u> </u>		U Not Present
- DL Tate Matching restriction mormation		Poteronae to TS24 108 alouna 6 10 Decemptor
		Reference to 1334.100 clause 0.10 Parameter
Fixed or Flexible Desition		<u>Sel</u> Beforence to TS24 108 clause 6 10 Decemptor
		<u>Reference to 1354.100 clause 0.10 Parameter</u>
		Sel
		Reference to 1534.108 clause 6.10 Parameter
		Set
- CHOICE SF		Reference to 1534.108 clause 6.10 Parameter
DDOLL services and see do in fe		Set <del>Utherwise</del>
- DPCH compressed mode Info		Not Present
- TX Diversity mode		None
<u>- SSDT information</u>		Not Present
<u>- Default DPCH Offset Value</u>		Not Present
Downlink information per radio link list	A1, A2, A3,	
	A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause
		<u>6.1 (FDD)</u> 100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>		

.

Information Element	Condition	Value/remark
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>		Primary CPICH may be used
- DPCH frame offset		0 chips
- Secondary CPICH info		Not Present
<ul> <li>Secondary scrambling code</li> </ul>		
- channelisation code		
- DL channelisation code		
<ul> <li>Secondary scrambling code</li> </ul>		2
- Spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- Code number		0
- Scrambling code change		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
- Closed loop timing adjustment mode		Not Present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	A5	
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause
		<u>6.1 (FDD)</u> 100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>		Not present
- SCCPCH Information for FACH		Not Present
<ul> <li>Downlink information for each radio link</li> </ul>	A6	
- Choice mode		FDD
- Primary CPICH info		
<ul> <li>Primary scrambling code</li> </ul>		Different from the Default setting in TS34.108
		<u>clause 6.1 (FDD)</u> 150
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not Present
- Secondary CCPCH info		Not Present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

## Contents of RADIO BEARER RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RECONFIGURATION
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded List	Not checked

## Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink RADIO BEARER RECONFIGURATION COMPLETE message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM

Information Element		Value/remark
Message Type	A1,A2,A3,A4,A5	
	.A6	
RRC transaction identifier	,,,	Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TO 04 400 0. If integrity
		statements in 15 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs
		are omitted
magaza authentication and		SS coloulates the value of MAC I for this
- message aumentication code		55 calculates the value of MAC-1 for this
		message and writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(250+CFN-(CFN MOD 8 + 8))MOD 250
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1,A2, A3, A4	CELL_DCH
RRC State indicator	A5, A6	
LITRAN DRY cycle longth coofficient		Not Present
	A1,AZ,A3,A4,A3	
	,A6	
CN information info		Not Present
Signalling Connection release indication		Not Present
URA identity		Not Present
RAB information to reconfigure list		Not Present
DD information to release	A1 A0	
RD Information to release	AT,AZ	
- RB identity		10
RB information to release	A2	
- RB identity		11
RB information to release	A2	
DR identity	//2	10
- ND IUEIIIIIY		
KB Information to release	A3, A4, A5, A6	
- RB identity		20
RB information to be affected	A1,A2,	Not Present
	A3.A4.A5 A6	
Downlink counter synchronication info		Not Present
	A1,A2,A3,A4,A3	
	,A0	
UL Transport channel information for all transport	A1,A2, A3,	Not Present
channels	A4,A5, A6	
Deleted UL TrCH Information	A1.A2 A3 A4	
- Unlink transport channel type	, , , , , , , , , , , , , , ,	рсн
- transport channel identity	+	
Deleted UL TrCH Information	A2	
<ul> <li>Uplink transport channel type</li> </ul>		DCH
- Transport channel identity		2
Deleted LIL TrCH Information	Δ2	
	//2	
- Oplink transport channel type		
- I ransport channel identity		3
Deleted UL TrCH Information	A5,A6	Not Present
Added or Reconfigured UL TrCH information	A1.A2, A3,A4	Not Present
	Δ5 Δ6	
Deleted DL TrCLI Information		
	A1,A2, A3,A4	DOLL
<ul> <li>Downlink transport channel type</li> </ul>		DCH
- Transport channel identity		6
Deleted DL TrCH Information	A2	
- Downlink transport channel type	··	рсн
Tropoport obconcil identity		7
- Transport channel identity		/
Deleted DL TrCH Information	A2	
- Downlink transport channel type		DCH
- Transport channel identity		8
Deleted DL TrCH Information	A5 A6	Not Present
		Not Dropont
Added or Reconfigured DL TrCH information	A1,A2, A3,	NOT Present
	A4,A5, A6	l

Information Element		Value/remark
Frequency info	A1,A2,A3,A4,A5	
	,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power		33dBm
CHOICE channel requirement	A5, A6	Not Present
CHOICE channel requirement	A1,A2,A3,A4	Uplink DPCH into
- Uplink DPCH power control info		
- DPCCH power offset		-b0B
SPR dolov		7 frames
- SND delay		Algorithm1
- TPC step size		1dB
- Scrambling code type		Long
- Scrambling code number		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
- TFCI existence		Reference to TS34.108 clause 6.10
		Parameter Set
- Number of FBI bit		Reference to TS34.108 clause 6.10
		Parameter Set
- Puncturing Limit		Reference to TS34.108 clause 6.10
		Parameter Set
CHOICE Mode	A1,A2,A3,A4,A5	FDD
Devertight DD0011 is farmenting	,A6	Not Descent
- DOWNINK PDSCH INformation	AE AG	Not Present
Downlink information common for all radio links		
Downlink Information common for all PL	A1,A2, A3, A4	
- Downlink DFCH Into continion for all RE		Maintain
- CEN-targetSEN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P _{Pilot-DPDCH}		0
<ul> <li>DL rate matching restriction information</li> </ul>		Not Present
- Spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set
- Fixed or Flexible Position		Reference to TS34.108 clause 6.10
TEOL		Parameter Set
- IFCI existence		Reference to 1S34.108 clause 6.10
		Parameter Set
		Reference to 1534.106 clause 6.10
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1,A2,A3,A4	
-Downlink information for each radio link		
- Choice mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108
		<u>clause 6.1 (FDD)</u> 100
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH into for each RL		
- Primary UPICH usage for channel estimation		Cohina
- DPCH Irame onset		U Chips Not Procent
- Secondary scrambling code		
- channelisation code		
- DL channelisation code		
- Secondary scrambling code		3
- Spreading factor		Reference to TS34.108 clause 6.10
		Parameter Set

Information Element		Value/remark
- Code number		0
<ul> <li>Scrambling code change</li> </ul>		No change
- TPC combination index		0
- SSDT Cell Identity		Not Present
<ul> <li>Closed loop timing adjustment mode</li> </ul>		Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>		Not Present
<ul> <li>Downlink information for each radio link</li> </ul>	A5	
- Choice mode		FDD
- Primary CPICH info		
<ul> <li>Primary scrambling code</li> </ul>		Ref. to the Default setting in TS34.108
		<u>clause 6.1 (FDD)</u> <del>100</del>
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>		Not present
<ul> <li>SCCPCH information for FACH</li> </ul>		Not Present
<ul> <li>Downlink information for each radio link</li> </ul>	A6	
- Choice mode		FDD
- Primary CPICH info		
<ul> <li>Primary scrambling code</li> </ul>		Different from the Default setting in TS34.108
		<u>clause 6.1 (FDD)</u> <del>150</del>
<ul> <li>PDSCH with SHO DCH info</li> </ul>		Not Present
<ul> <li>PDSCH code mapping</li> </ul>		Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>		Not present
<ul> <li>SCCPCH information for FACH</li> </ul>		Not Present

	Condition	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

## Contents of RADIO BEARER RELEASE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink RADIO BEARER RELEASE message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement
Radio bearers for which reconfiguration would have succeeded	Not checked

Contents of UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
<ul> <li>message authentication code</li> </ul>	SS calculates the value of MAC-I for this message and
	writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	See the test content
New C-RNTI	See the test content
UE Timers and constants in connected mode	
- T301	2000 milliseconds
- N301	2
- T302	4000 milliseconds
- N302	3
- T304	1000 milliseconds
- N304	3
- T305	60 minutes
- T307	50 seconds
- T308	320 milliseconds
- T309	8 seconds
- T310	320 milliseconds
- N310	5
- T311	500 milliseconds
- T312	5 seconds
- N312	200
- T313	10 seconds
- N313	200
- T314	20 seconds
- T315	30 seconds
- N315	200
- T316	50 seconds
- T317	1800 seconds
CN information info	Not Present
URA identity	Not present
Downlink counter synchronisation info	Not Present

#### Contents of UTRAN MOBILITY INFORMATION CONFIRM message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the value of the same IE in downlink UTRAN MOBILITY INFORMATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM, (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

#### Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Initial UE identity	Select the same type as in the IE "Initial UE Identity" in
	RRC CONNECTION REQUEST" message.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

#### Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Select the same identity as in the IE "Initial UE Identity" in received RRC CONNECTION REQUEST" message
RRC transaction identifier	0
Activation time	Not Present (Now)
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
RRC state indicator	CELL_FACH
UTRAN DRX cycle length coefficient	9
Capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
<ul> <li>CHOICE RLC info type</li> </ul>	RLC info
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Timer based no explicit
- Timer discard	50
<ul> <li>CHOICE Downlink RLC mode</li> </ul>	UM RLC
- RB mapping info	
<ul> <li>Information for each multiplexing option</li> </ul>	2 RBMuxOptions
<ul> <li>RLC logical channel mapping indicator</li> </ul>	Not Present
<ul> <li>Number of uplink RLC logical channels</li> </ul>	1
<ul> <li>Uplink transport channel type</li> </ul>	DCH
<ul> <li>UL Transport channel identity</li> </ul>	5
<ul> <li>Logical channel identity</li> </ul>	1
- CHOICE RLC size list	Configured

Information Element	Value/remark
<ul> <li>MAC logical channel priority</li> </ul>	1
<ul> <li>Downlink RLC logical channel info</li> </ul>	
<ul> <li>Number of downlink RLC logical channels</li> </ul>	1
<ul> <li>Downlink transport channel type</li> </ul>	DCH
<ul> <li>DL DCH Transport channel identity</li> </ul>	10
<ul> <li>DL DSCH Transport channel identity</li> </ul>	Not Present
<ul> <li>Logical channel identity</li> </ul>	1
<ul> <li>RLC logical channel mapping indicator</li> </ul>	Not Present
<ul> <li>Number of uplink RLC logical channels</li> </ul>	1
<ul> <li>Uplink transport channel type</li> </ul>	RACH
<ul> <li>UL Transport channel identity</li> </ul>	Not Present
- Logical channel identity	1
- CHOICE RLC size list	Configured Explicit list
- MAC logical channel priority	2
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	
- Downlink transport channel type	FACH Not Descent
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	
Signalling RB Information to setup	(AM DUCH for RRC)
- RB Identity	Z PLC info
- CHOICE RLC IIII0 type	
Transmission PLC disport	
- SDU discard mode	Max DAT retransmissions
- Timer MRW	100
- MaxMRW/	4
- Transmission window size	8
- Timer RST	500
- Max RST	4
- Polling info	
- Timer poll prohibit	200
- Timer poll	200
- Poll_SDU	1
<ul> <li>Last transmission PDU poll</li> </ul>	TRUE
<ul> <li>Last retransmission PDU poll</li> </ul>	TRUE
- Poll_Windows	99
<ul> <li>CHOICE Downlink RLC mode</li> </ul>	AM RLC
<ul> <li>In-sequence delivery</li> </ul>	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Imer_status_prohibit	200
- Timer_EPC	200
- Missing PDU indicator	IRUE
- RB mapping into	2 DBMuxOntions
- Information for each multiplexing option	2 RDMuXOptions
- REC logical channel mapping indicator	
- Number of uplink REC logical channels	
- Ull Transport channel identity	5
- Logical channel identity	2
- CHOICE RI C size list	Configured
- MAC logical channel priority	2
- Downlink RI C logical channel info	-
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	10
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	2
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	2
- CHOICE RLC size list	Explicit listConfigured

Information Flamout	Malua (an manla
Information Element	value/remark
- MAC logical channel priority	3
- Downlink RLC logical channel info	
<ul> <li>Number of downlink RLC logical channels</li> </ul>	1
<ul> <li>Downlink transport channel type</li> </ul>	FACH
<ul> <li>DL DCH Transport channel identity</li> </ul>	Not Present
<ul> <li>DL DSCH Transport channel identity</li> </ul>	Not Present
<ul> <li>Logical channel identity</li> </ul>	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Timer RST	500
- Max RST	4
- Polling info	
- Timer poll prohibit	200
- Timer noll	200
- Poll SDU	1
Last transmission BDU noll	
- Last retransmission PDO poli Ball, Windowa	
- FUIL_WINDOWS	
- CHOICE DOWNIINK RLC Mode	
- III-sequence delivery	
- Receiving window size	8
- DOWNINK RLC Status Info	000
	200
- Timer_EPC	200
- Missing PDU indicator	IRUE
- RB mapping info	
<ul> <li>Information for each multiplexing option</li> </ul>	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
<ul> <li>Number of uplink RLC logical channels</li> </ul>	1
<ul> <li>Uplink transport channel type</li> </ul>	DCH
<ul> <li>UL Transport channel identity</li> </ul>	5
<ul> <li>Logical channel identity</li> </ul>	3
- CHOICE RLC size list	Configured
<ul> <li>MAC logical channel priority</li> </ul>	3
<ul> <li>Downlink RLC logical channel info</li> </ul>	
<ul> <li>Number of downlink RLC logical channels</li> </ul>	1
<ul> <li>Downlink transport channel type</li> </ul>	DCH
<ul> <li>DL DCH Transport channel identity</li> </ul>	10
<ul> <li>DL DSCH Transport channel identity</li> </ul>	Not Present
- Logical channel identity	3
<ul> <li>RLC logical channel mapping indicator</li> </ul>	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL DCH Transport channel identity	Not Present
- Logical channel identity	3
- CHOICE RLC size list	Explicit listConfigured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RR identity	
- CHOICE RI C info type	, RLC info
- CHOICE Unlink RI C mode	AM RI C
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions

Information Element	Value/remark
	<u>A</u>
- Timer MRW	100
- MaxMRW	4
- Transmission window size	8
- Timer RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
<ul> <li>Last transmission PDU poll</li> </ul>	TRUE
<ul> <li>Last retransmission PDU poll</li> </ul>	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	
- Receiving window size	0
- Timer status probibit	200
- Timer_Status_profilbit	200
- Missing PDU indicator	
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	5
<ul> <li>Logical channel identity</li> </ul>	4
- CHOICE RLC size list	Configured
- MAC logical channel priority	4
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	
- Downlink transport channel type	
- DL DCH Transport channel identity	Not Present
- Logical channel identity	
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
<ul> <li>UL Transport channel identity</li> </ul>	Not Present
<ul> <li>Logical channel identity</li> </ul>	4
- CHOICE RLC size list	Explicit list Configured
- MAC logical channel priority	5
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	
- DUMININK transport channel identity	Not Present
- DL DCH Transport channel identity	Not Present
- Logical channel identity	
UL Transport channel information for all transport	Not Present
channels	
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required
	when the IE "RRC state indicator" is set to "CELL_FACH",
	need is MP to align with ASN.1"
<ul> <li>Added or Reconfigured UL TrCH information</li> </ul>	
- Uplink transport channel type	DCH
- UL Transport channel identity	5
- IFS CHOICE Transport shapped time	Delicated transport channels
- OHORE TRANSPORT CHARMENT type	
- RIC Size	Reference to TS34,108 clause 6 10 Parameter Set
- Number of TBs and TTLL ist	(This IE is repeated for TFI number.)
- Transmission Time Interval	Not Present
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel List	ALL
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set

Information Element	Value/remark
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all	Not Present(Refer to SIB type 5)
transport channel	
Added or Reconfigured TrCH information list	TS 25.331 specifies that "Although this IE is not required
	when the IE "RRC state indicator" is set to "CELL_FACH",
	need is MP to align with ASN.1"
<ul> <li>Added or Reconfigured DL TrCH information</li> </ul>	
<ul> <li>Downlink transport channel type</li> </ul>	DCH
<ul> <li>DL Transport channel identity</li> </ul>	10
<ul> <li>CHOICE DL parameters</li> </ul>	Same as UL
<ul> <li>Uplink Transport channel type</li> </ul>	DCH
- UL TrCH identity	5
<ul> <li>DCH quality target</li> </ul>	Not Present
<ul> <li>Transparent mode signalling info</li> </ul>	Not Present
Frequency info	
- UARFCN uplink (Nu)	Reference to clause 5.1 Test frequencies
- UARFCN downlink (Nd)	Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	33dBm
CHOICE channel requirement	Not Present
Downlink information common for all radio links	Not Present
Downlink information for each radio link list	
<ul> <li>Downlink information for each radio link</li> </ul>	
- Choice mode	FDD
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	Ref. to the Default setting in TS34.108 clause 6.1
	(FDD)100
- PDSCH with SHO DCH info	Not Present
- PDSCH code mapping	Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>	Not present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present

#### Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Identification of received message	Not Checked
Protocol error information	
- Protocol error cause	Refer to test requirement.

## Contents of SECURITY MODE FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is the identical to the same IE in the downlink SECURITY MODE COMMAND message.
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Refer to test requirement.

#### Contents of TRANSPORT CHANNEL RECONFIGURATION message: AM or UM

Information Element	Condition	Value/remark
Message Type	A1, A2, A3,	
	A4,A5,A6	
RRC transaction identifier		Arbitrarily selects an integer between 0 and 3
Integrity check info		The presence of this IE is dependent on IXIT
		statements in TS 34.123-2. If integrity
		protection is indicated to be active, this IE is
		present with the values of the sub IEs as
		stated below. Else, this IE and the sub-IEs are
		omitted.
<ul> <li>message authentication code</li> </ul>		SS calculates the value of MAC-I for this
		message and writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>		SS provides the value of this IE, from its
		internal counter.
Integrity protection mode info		Not Present
Ciphering mode info		Not Present
Activation time		(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI		Not Present
New C-RNTI		Not Present
RRC State indicator	A1, A2, A3,	CELL_DCH
	A4	
RRC State indicator	A5, A6	CELL_FACH
UTRAN DRX cycle length coefficient	A1, A2, A3,	Not Present
	A4,A5,A6	
CN information info		Not Present
URA identity		Not Present
Downlink counter synchronisation info		Not Present
UL Transport channel information for all transport	A1, A2,	Not Present
channels	<del>A3,A4, </del> A5,	
	A6	

Information Element	Condition	Value/remark
UL Transport channel information for all transport	A3, A4	
channels		
- PRACH TFCS		Not Present
- CHOICE mode		FDD
- TFC subset		Not Present
- UL DCH TFCS		
- CHOICE TFCI signalling		Normal
- TFCI Field 1 information		
- CHOICE TFCS representation		Complete reconfiguration
<ul> <li>TFCS complete reconfigure information</li> </ul>		
- CHOICE CTFC Size		Number of bits used must be enough to cover
		all combinations of CTFC from TS34.108
		clause 6.10 Parameter Set.
- CTFC information		This IE is repeated for TFC numbers and
		reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<u> </u>		Reference to TS34.108 clause 6.10
		Parameter Set
- Power offset information		
- CHOICE Gain Factors		Computed Gain Factors(The last TFC is set to
		Signalled Gain Factors)
- Gain factor •c		<u>11 (below 64 kbps)</u>
		9 (higher than 64 kbps)
		(Not Present if the CHOICE Gain Factors is set
		to ComputedGain Factors)
- Gain factor •d		
		(Not Present if the CHOICE Gain Factors is set
		to ComputedGain Factors)
- CHOICE mode		<u>FUU</u> Net Descent
- Power offset P p-m		Not Present
Added or Reconfigured UL TrCH information	A1, A2, <mark>A3,</mark>	Not Present
	<del>A4,</del> A5, A6	

Information Element	Condition	Value/remark
Added or Reconfigured III. TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Uplink transport channel type	<u>~~</u>	DCH
- UL Transport channel identity		5
- TFS		-
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of TBs and TTI List		(This IE is repeated for TFI number.)
- Transmission Time Interval		Not Present
<ul> <li>Number of Transport blocks</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
- CHOICE Logical Channel list		All
<ul> <li>Semi-static Transport Format information</li> </ul>		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
Operation of Decks		Set
- Coding Rate		Reference to 1S34.108 clause 6.10 Parameter
Determentable and this state		Set
- Rate matching attribute		Reference to 1534.108 clause 6.10 Parameter
		Set
- CRC SIZE		Reference to 1534.106 clause 6.10 Parameter
Liplink transport shannel type		<u>Set</u>
- Opink transport channel identity		
		<u> </u>
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		Dedicated transport channels
- RLC Size		Reference to TS34 108 clause 6 10 Parameter
		Set
- Number of TBs and TTLList		(This IE is repeated for TEL number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		_
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<ul> <li>Rate matching attribute</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
<u>- CRC size</u>		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
Added or Reconfigured UL TrCH information	<u>A3</u>	(DCH for DTCH)
- Uplink transport channel type		DCH
- UL Transport channel identity		<u>1</u>
- IFS		De diseted transmert channels
- CHOICE Transport channel type		Dedicated transport channels
- Dynamic Transport format information		Poteronas to TS24 108 alguns 6 10 Decemptor
- KLC SIZE		Reference to 1554.100 clause 0.10 Parameter
- Number of TBs and TTLList		(This IF is repeated for TEL number.)
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34 108 clause 6 10 Parameter
		Set
- CHOICE Logical Channel list		All
- Semi-static Transport Format information		
- Transmission time interval		Reference to TS34.108 clause 6.10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
		Set

Information Element	Condition	Value/remark
- Rate matching attribute		Reference to TS34.108 clause 6.10 Parameter
- CRC size		Set Reference to TS34.108 clause 6.10 Parameter Set
CHOICE mode	A1,A2,A3,	FDD
- CPCH set ID - Added or Reconfigured TrCH information for DRAC list	A4,A5,A6	Not Present Not Present
DL Transport channel information common for all	A1, A2, <mark>A3,</mark>	Not Present
transport channel	<mark>A4</mark> , A5,A6	
DL Transport channel information common for all	<u>A3,A4</u>	
<u>rransport channel</u> <u>- SCCPCH TFCS</u> <u>- CHOICE mode</u> <u>- CHOICE DL parameters</u> <u>- DL DCH TFCS</u> <u>- CHOICE TFCI Signalling</u> <u>- TFCI Field 1 Information</u>		Not Present FDD Explicit Normal
- CHOICE TFCS representation		Complete reconfiguration
- TFCS complete reconfigure - CHOICE CTEC Size		Number of bits used must be enough to cover
- CTFC information - CTFC		All combinations of CTFC from clause TS34.108 clause 6.10 Parameter Set. This IE is repeated for TFC numbers and reference to TS34.108 clause 6.10 Reference to TS34.108 clause 6.10 Parameter
- Power offset information		<u>Set</u> Not Present
Added or Reconfigured DL TrCH information		Not Present
	A4, A5, A6	

Information Element	Condition	Value/remark
Added or Reconfigured DL TrCH information	A4	2 TrCHs(DCH for DCCH and DCH for DTCH)
- Downlink transport channel type		DCH
- DL Transport channel identity		<u>10</u>
- CHOICE DL parameters		Same as UL
- UIL TrCH identity		5
- DCH quality target		2
- BLER Quality value		Not Present
- Transparent mode signalling info		Not Present
- Downlink transport channel type		DCH
- DL Transport channel identity		<u>0</u> Explicit
- TFS		
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
- Number of TBs and TTLL ist		<u>Set</u> (This IF is repeated for TEL number.)
- Dynamic transport format information		
- Transmission Time Interval		Not Present
<ul> <li>Number of Transport blocks</li> </ul>		Reference to TS34.108 clause 6.10 Parameter
Comi atatia Transport Format information		<u>Set</u>
- Semi-static Transport Format Information		Reference to TS34 108 clause 6 10 Parameter
		Set
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
- Rate matching attribute		Set Reference to TS34 108 clause 6 10 Parameter
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER Quality Value		- <u>0.3</u> Not Present
Added or Reconfigured DL TrCH information	A3	
- Downlink transport channel type		<u>DCH</u>
- DL Transport channel identity		<u>6</u>
- CHOICE DL parameters		Explicit
- CHOICE Transport channel type		Dedicated transport channel
- Dynamic transport format information		
- RLC Size		Reference to TS34.108 clause 6.10 Parameter
Number of TDe and TTU List		Set (This IF is reported for TFI symbols)
- NUMBER OF IDS and THELIST - Dynamic transport format information		<u>(1111S I⊏ IS repeated for 1F1 humber.)</u>
- Transmission Time Interval		Not Present
- Number of Transport blocks		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u>
- Semi-static Transport Format information		Poteronas to TS24 108 deuros 6 10 Peremotor
		Reference to 1534.106 clause 6.10 Parameter
- Type of channel coding		Reference to TS34.108 clause 6.10 Parameter
		Set
- Coding Rate		Reference to TS34.108 clause 6.10 Parameter
Data matching attribute		Set Beforence to TS24.109 clouce 6.10 Decemptor
		Set
- CRC size		Reference to TS34.108 clause 6.10 Parameter
		Set
- DCH quality target		
- BLER QUAIIty Value		-b.3 Not Present
Frequency info	A1,A2.A3	
	A4,A5,A6	
- UARFCN uplink (Nu)		Reference to clause 5.1 Test frequencies
Information Element	Condition	Value/remark
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- UARFCN downlink (Nd)		Reference to clause 5.1 Test frequencies
Maximum allowed UL TX power	A1,A2,A3,	33dBm
	A4,A5,A6	
CHOICE channel requirement	A5, A6	Not Present
CHOICE channel requirement	A1, A2, A3,	Uplink DPCH info
Unlink DDOLL a surge seatest is fe	A4	
-Uplink DPCH power control into		6dD
PC Proamble		-00B
		7 frames
- Power Control Algorithm		Algorithm1
- TPC step size		1dB
- Scrambling code type		Long
- Scrambling code number		0 (0 to 16777215)
- Number of DPDCH		Not Present(1)
- spreading factor		Reference to TS34.108 clause 6.10 Parameter
		Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter
		Set
- Number of FBI bit		Reference to TS34.108 clause 6.10 Parameter
		Set
- Puncturing Limit		Reference to 1534.108 clause 6.10 Parameter
CHOICE Mada		
	$\Delta 1, \Delta 2, \Delta 3,$	FDD
- Downlink PDSCH information	77,70,70	Not Present
Downlink information common for all radio links	A5, A6	Not Present
Downlink information common for all radio links	A1, A2, A3	
	A4	
- Downlink DPCH info common for all RL		
- Timing indicator		Maintain
<ul> <li>CFN-targetSFN frame offset</li> </ul>		Not Present
<ul> <li>Downlink DPCH power control information</li> </ul>		
- DPC mode		0 (single)
- CHOICE mode		FDD
- POWER OTTSET PPilot-DPDCH		U Not Procent
- DL rate matching restriction information		Not Present Reference to TS24.108 clouce 6.10 Decemeter
		Sot
- Fixed or Flexible Position		Reference to TS34 108 clause 6 10 Parameter
		Set
- TFCI existence		Reference to TS34.108 clause 6.10 Parameter
		Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter
		<u>Set</u> Otherwise
- DPCH compressed mode info		Not Present
- TX Diversity mode		None
- SSDT Information		Not Present
Development of the second of t	Δ1	
- Downlink DPCH info common for all RI	<u>^</u>	
- Timing indicator		Initialise
- CFN-targetSFN frame offset		Not Present
- Downlink DPCH power control information		
- DPC mode		0 (single)
- CHOICE mode		FDD
- Power offset P _{Pilot-DPDCH}		<u>0</u>
- DL rate matching restriction information		Not Present
- Spreading factor		Reterence to 1S34.108 clause 6.10 Parameter
Fixed or Flovible Desition		Sel Deference to TS24 109 clouise 6 10 Decementar
		Cherence to 1534.108 clause 6.10 Parameter
- TECL existence		Reference to TS34 108 clause 6 10 Parameter
		Set
- CHOICE SF		Reference to TS34.108 clause 6.10 Parameter
		SetOtherwise
- DPCH compressed mode info		Not Present

Information Element	Condition	Value/remark
- TX Diversity mode		None
- SSDT information		Not Present
- Default DPCH Offset Value		Not Present
Downlink information for each radio link list	A1, A2, A3,	
	A4	
<ul> <li>Downlink information for each radio links</li> </ul>		
- CHOICE mode		FDD
- Primary CPICH info		
- Primary scrambling code		Ref. to the Default setting in TS34.108 clause
		<u>6.1 (FDD)<del>100</del></u>
- PDSCH with SHO DCH info		Not Present
<ul> <li>PDSCH code mapping</li> </ul>		Not Present
- Downlink DPCH info for each RL		
- Primary CPICH usage for channel estimation		Primary CPICH may be used
- DPCH frame offset		0 chips
- Power offset P _{Pilot-DPDCH}		0
- Secondary CPICH info		Not Present
- DL channelisation code		
- Secondary scrambling code		
- Spreading factor		Reference to 1S34.108 clause 6.10 Parameter
On the second sec		Set
- Code number		
- Scrambling code change		No change
- TPC combination index		U Not Present
- SSDT Cell Identity		Not Present
- Closed loop liming adjustment mode		Not Present
- SUCFUR INIONIALION FOR each radia link	^ <i>E</i>	Not Fresent
- Downlink information for each radio link	Ab	EDD
- Choice mode		FDD
Primary CFICITIIIIO		Pof. to the Default catting in TS24 108 clause
- Frinary scrambing code		6 1 (EDD)100
PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RI		Not present
- SCCPCH information for FACH		Not Present
- Downlink information for each radio link	46	
- Choice mode	/10	FDD
- Primary CPICH info		
- Primary scrambling code		Different from the Default setting in TS34 108
		clause 6.1 (FDD) <del>150</del>
- PDSCH with SHO DCH info		Not Present
- PDSCH code mapping		Not Present
- Downlink DPCH info for each RL		Not present
- SCCPCH information for FACH		Not Present

Condi	tion	Explanation
A1		This IE need for "Non speech in CS"
A2		This IE need for "Speech in CS"
A3		This IE need for "Packet to CELL_DCH from CELL_DCH in PS"
A4		This IE need for "Packet to CELL_DCH from CELL_FACH in PS"
A5		This IE need for "Packet to CELL_FACH from CELL_DCH in PS"
A6		This IE need for "Packet to CELL_FACH from CELL_FACH in PS"

## Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
CHOICE mode	FDD
COUNT-C activation time	The presence of this IE depends on the following 2 factors: (a) There exists RB(s) mapped to RLC-TM and (b) UE is transiting to CELL_DCH state after the reconfiguration procedure. Else, this IE is absent.
Radio bearer uplink ciphering activation time info	Not checked
Uplink counter synchronisation info	Not checked

## Contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message: AM

Information Element	Value/remark
Message Type	
RRC transaction identitifer	Checked to see if it is set to identical value of the same IE in the downlink TRANSPORT CHANNEL RECONFIGURATION message.
Integrity check info	The presence if this IE is dependent on IXIT statements in TS 34.123-2. if integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Checked to see if it meets test requirement

Contents of TRANSPORT FORMAT COMBINATION CONTROL message: AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and
	writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
CHOICE mode	FDD
DPCH/PUSCH TFCS in Uplink	
- CHOICE Subset representation	Allowed transport format combination list
<ul> <li>Allowed Transport format combination</li> </ul>	0 (The TFC is constructed from ALL TF0)
Activation time for TFC subset	Not Present
TFC Control duration	Not Present

## Contents of UE CAPABILITY ENQUIRY message: AM or UM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects an integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> <li>Capability update requirement</li> </ul>	SS provides the value of this IE, from its internal counter.
- UE radio access capability update requirement	TRUE

## Contents of UE CAPABILITY INFORMATION message: AM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if the value is identical to the same IE in the downlink UE CAPABILITY ENQUIRY message.
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
- ICS Version	
- PDCP Capability	
- RLC Capability	
<ul> <li>Transport channel capability</li> </ul>	
- RF Capability FDD	
- RF Capability TDD	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	Value will be sharked. Ctated can shilt would be
OE radio access capability extension	compatible with 34.123-2 (ICS statements) and the user
	settings
UE system specific capability	Not Checked

## Contents of UE CAPABILITY INFORMATION CONFIRM message: UM

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Checked to see if it is absent
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
<ul> <li>Message authentication code</li> </ul>	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
<ul> <li>RRC Message sequence number</li> </ul>	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
URA update cause	See the test content
Protocol error indicator	Checked to see if it is absent or set to 'FALSE'
Protocol error information	Checked to see if it is absent

## Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following
	values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
RRC transaction identifier	Arbitrarily selects and integer between 0 and 3
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE is present with the values of the sub IEs as
	stated below. Else, this IE and the sub-IEs are omitted.
<ul> <li>message authentication code</li> </ul>	SS calculates the value of MAC-I for this message and
	writes to this IE.
<ul> <li>RRC message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
New U-RNTI	Not Present
New C-RNTI	Not Present
RRC state indicator	URA_PCH
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
URA identity	See the test content
Downlink counter synchronisation info	Not Present

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		A (corr	esponds to a c	orrection in a	an ean	lier re	lease	e) R96	(Rele	ase 1996)	
		B (addi	ition of feature)	,				R97	(Rele	ase 1997)	
		C (tunc	tional modification	tion of featur	re)			R98 Poo	(Rele	ase 1998)	
	Deta	ailed exp	lanations of the	above cate	aories	can		RFI -4	(Rele	ase 1999) ase 4)	
	be fo	ound in 3	3GPP <u>TR 21.90</u>	<u>)0</u> .	gonoo	Joan		REL-5	(Rele	ase 5)	
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Grammatical corrections.											
		Clarifications are made to improve the readability of the test proses.									
		Updatir	ng of the IEs ac	cording to !	June v	ersior	n TS í	25.331.			
	In all multi-cells tables, all entries labeled CPICH RSCP are revised to CPICH Ec since						sinco				
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		In all rr these ta by UE. and the All pos	nulti-cells table ables specify th The value of the value is -60 d t amble test ste	es, all entries e DL TX po his paramete Bm when th ps are remo	a labele ower co er whe ne cell oved.	ed CP onfigu n the is sui	ICH ured   cell i table	RSCP are rev by SS, instead s not suitable for camping.	of the for car	Rx power mping is –7	receive 75dBm

**CHANGE REQUEST** 

Contents in the SIB type 5 used in the test cases found in clause 8.2 (except 8.2.1) and 8.3 have been update according to those found in TS 34.108.

In clause 8.2 (except 8.2.1) and 8.3, all reception of invalid RRC message test cases are

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Sophia Antipolis, France, 18th-20th February 2002

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T1-020040

CR-Form-v6.1

revised to use short message to generate the invalid message.

In clause 8.2 (except 8.2.1), the applicability of many test cases is revised.

In many test cases in clause 8.2 (except 8.2.1), references of default messages are updated.

In clause 8.2.2.2, IE "UARFCN uplink (Nu)" in the unsupported configuration message is set to '0' and IE "UARFCN downlink (Nd)" is set to 950. In clause 8.2.2.11, 8.2.3.2, 8.2.3.10, 8.2.4.2, 8.2.4.11, 8.2.6.2 and 8.2.6.10, the same correction can be found. This may not be the best solution but at least the test condition will not misled readers.

In clause 8.2.2.4 and 8.2.3.4, the content of CELL UPDATE CONFIRM messge in step 4 is revised so that the UE returns to its initial state.

In clause 8.2 (except 8.2.1), all invalid configuration messages from SS to UE shall use the following setting:

Default DPCH Offset Value	512
DPCH frame offset	1024

Except for TRANSPORT FORMAT COMBINATION CONTROL message in clause 8.2.5.4. In this case, the transport channel type is set to conflict with the identity.

In clause 8.2.2.5, 8.2.2.14, 8.2.3.5, 8.2.3.13, 8.2.4.5, 8.2.4.14, 8.2.6.5 and 8.2.6.13, IE "Scrambling code number" is added to the RBC messages in step 1 and 2 but the values for both messages are different. In clause 8.2.6.5 and 8.2.6.13, this IE is added to step 4 and 5.

In subsequently received test cases, IE "Scrambling code number" is added to the two same RBC messages subsequently sent from SS but the values for both messages are different. These changes apply to clause 8.2.1.17, 8.2.1.18, 8.2.2.19, 8.2.2.20, 8.2.3.16, 8.2.3.17, 8.2.4.18, 8.2.4.19, 8.2.6.17 and 8.2.6.18.

IE "Primary scrambling code" is added to RADIO BEARER RECONFIGURATION message in step 1 of clause 8.2.2.21, 8.2.2.22, 8.2.2.23, and 8.2.2.24. Same modification can be found in RADIO BEARER RELEASE message in step 1 of clause 8.2.3.18 and 8.2.3.19. Same modification can be found in TRANSPORT CHANNEL RECONFIGURATION message in step 1 of clause 8.2.4.20 and 8.2.4.21. Same modification can be found in PHYSICAL CHANNEL RECONFIGURATION message in step 1 of clause 8.2.6.19 and 8.2.6.20

Previously, 2 cells are required in hard handover test cases. This CR proposes that the hard handover be done with a change in UL scrambling code instead of radio frequency. In this way only 1 cell is required. All hard handover test cases are revised according to this proposal except for clause 8.2.6.15.

In clause 8.2.2.7, RB identity '3' is specified as the RB to continue using. Also a step to stop the RB 3 is added. To check that RB 3 is enabled or disabled, SS send IDENTITY REQUEST message to UE and UE will send back IDENTITY RESPONSE message back to SS only if IE "RB stop/continue" is set to "continue" and will not send back IDENTITY RESPONSE message if IE "RB stop/continue" is set to "stop".

In clause 8.2.2.16 has been removed. In practice, such reconfiguration of the UE is not needed.

In clause 8.2.2.17 and 8.2.4.16, the test case has been modified to test that the UE transit from CELL_FACH in the current cell to CELL_FACH in another cell. No change to the test step but the test condition and message content are changed.

In clause 8.2.3.5 and 8.2.3.13, RADIO BEARER SETUP message in step 1 is replaced by RADIO BEARER RECONFIGURATION message. In clause 8.2.2.14, RADIO BEARER SETUP message in step 1 is replaced by PHYSICAL CHANNEL RECONFIGURATION message. This will remove the need to trigger NAS procedure.

In clause 8.2.5.1, the value in IE "DPCH/PUSCH TFCS uplink" in TRANSPORT

FORMAT COMBINATION CONTROL message is set to "Restricted TrCH information". Also SS send UE CAPABILITY ENQUIRY message to UE is added to step 2a. This is to check that UE does not send back STATUS PDU to SS.

In clause 8.2.5.2, the value in IE "DPCH/PUSCH TFCS uplink" in TRANSPORT FORMAT COMBINATION CONTROL message is set to "Full transport format combination set". Also SS send TRANSPORT FORMAT COMBINATION CONTROL message to UE to remove the restriction impose by the first message is added. Then SS sends UE CAPABILITY ENQUIRY message to UE is also added. This is to check that UE send back STATUS PDU to SS after the second TRANSPORT FORMAT COMBINATION CONTROL message.

Clause 8.2.5.3 is removed, as this test requirement is not the core specification.

During the test, PHYSICAL CHANNEL RECONFIGURATION message is sent to the UE to move the UE from CELL_FACH to CELL_DCH, but DCH TrCH info is not included in this message. Therefore the initial condition is changed to CELL_DCH so that the UE could have the necessary information to do the transition from CELL_FACH to CELL_DCH later in the test. Then to start the test in CELL_FACH, a step to move the UE from CELL_DCH to CELL_FACH using PHYSICAL CHANNEL RECONFIGURATION message is added. The UE shall then send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. These changes apply to clause 8.2.6.9, 8.2.6.10, 8.2.6.11, 8.2.6.12, 8.2.6.13, 8.2.6.14 and 8.2.6.18.

In clause 8.2.6.15, instead of hard handover to another frequency, it is changed to hard handover to another cell. Therefore 2 cells are used instead of 1 in this modification.

In cell re-select test cases (clause 8.2.2.9, 8.2.3.8, 8.2.4.9, 8.2.6.8), the tests are modified to use only 1 cell. The RBC messages shall include IE "Primary CPICH info" which is set to the value of cell 2. Since cell 2 is not available, the UE shall re-select to cell 1 and then send a CELL UPDATE message with IE "Cell update cause" set to "cell reselection".

In test cases where UE fails to revert back to old configuration (clause 8.2.2.13, 8.2.3.12, 8.2.4.13 and 8.2.6.12), the cell update cause should be "radio link failure".

In cell-reselect test cases (clause 8.2.2.9, 8.2.2.18, 8.2.3.8, 8.2.4.9, 8.2.4.17, 8.2.6.8, 8.2.6.16), the CELL UPDATE CONFIRM messages are revised to exclude IE "New U-RNTI" and IE "New C-RNTI" so that UE shall not need to send back UTRAN MOBILITY INFORMATION message back to SS.

In clause 8.3.1.1, the message content for CELL UPDATE CONFIRM message use in step 8 and k=3 has been modified so that it is much simpler. IE "RB information to be reconfigure" is used instead and the IE "RB stop/continue" is set to 'stop' for RB 20.

In clause 8.3.1.2, test steps to confirm that the UE responds with the correct message after receiving CELL UPDATE CONFIRM message have been removed because these tests are available in clause 8.3.1.1. Test steps are added to check that the UE enters CELL_PCH after it receives CELL UPDATE CONFIRM message and also to check that UE is capable of performing multiple cell update due to different causes.

In clause 8.3.1.3 and 8.3.1.4, UE in CELL_FACH state cannot read SIB type 1. To change the value of T305, SS can transmit UTRAN MOBILITY INFORMATION message and specify the new value of T305. However, the UE will only use the new value when it restarts the timer. A way of ensuring that the UE restarts T305 if the make the UE transit to CELL_PCH and then back to CELL_FACH. Additional steps are added to ensure that the UE do so.

In clause 8.3.1.5, the MEASUREMENT CONTROL message is revised so that the UE sends MEASUREMENT REPORT message periodically. Step 9 to 16 is removed because it is unnecessary to test the UE for the same purpose again.

In clause 8.3.1.6, the MEASUREMENT CONTROL message is added so that the UE sends MEASUREMENT REPORT message periodically. RADIO BEARER RELEASE message is added to make the UE transit to CELL_PCH state. Step 5a, 5b and 6 are

removed, as these test steps are no longer needed.

Table 8.3.1.9, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.1.9. SIB Type 3 and 4 has been modified so that the S value of the cell could be easily control by the SS. The same changes are applied to clause 8.3.1.10. Furthermore, in clause 8.3.1.10, step 6 to 17 are removed, as these test steps are no longer needed.

In clause 8.3.1.13 and 8.3.1.20, test step 6 to 11 are removed because the test purpose is similar to clause 8.3.1.12.

In clause 8.3.1.17, test step 3 and 4 are removed because these step are unnecessary.

Table 8.3.1.18, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.1.18. Test steps are added to provide the UE with new T315 value. Test steps to test that UE performs cell reselection and transmits CELL UPDATE message after it fails to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message, has also been added.

Table 8.3.2.3, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.2.3. SIB Type 3 and 4 has been modified so that the S value of the cell could be easily control by the SS. The same changes are applied to clause 8.3.2.4. Furthermore, in clause 8.3.2.3, step 8 to 11 are removed, as these test steps are no longer needed.

In clause 8.3.2.7, it is not necessary for the UE to perform a maximum of N302 retransmission as this requirement has already been tested in clause 8.3.2.6. Therefore the test step has been simplified. Due to the same reason, clause 8.3.2.8 is removed.

In clause 8.3.2.10, testing of UE behaviour when it receives an invalid URA UPDATE CONFIRM message is removed as this has already been tested in clause 8.3.2.2.

In clause 8.3.3.1, test step 7 to 9 are added to ensure that the UE uses the newly assigned T305.

In clause 8.3.3.2, test steps to check the behaviour of UE when cell reselection occurs before UE transmit UTRAN MOBILITY INFORMATION CONFIRM message to SS are removed because it is too difficult for the SS to create the testing condition.

Table 8.3.4.1, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.4.1. Step 2 is added to check that UE send MEASUREMENT REPORT message to indicate that the power level of the P-CPICH in cell 2 has rised to the reporting range. Steps are added to check that the UE responds through the right cell. Similar changes can be found in clause 8.3.4.2 and 8.3.4.3. Furthermore, in clause 8.3.4.2, test steps are also added to added radio link so that the UE has radio link to remove in the later part of the test without losing RRC connection.

Table 8.3.4.4, which illustrates the downlink power to be applied at various time instants of the test execution, has been inserted into clause 8.3.4.4. Step 2 is added to check that UE send MEASUREMENT REPORT message to indicate that the power level of the P-CPICH in cell 2 has rised to the reporting range. The same changes applies to clause 8.3.4.7.

Test conformance requirement of clause 8.3.4.5 has been changed. The new test conformance tests the UE behaviour when UE receives ACTIVE SET UPDATE message in the wrong state.

Changes in revision 4 are highlighted in green. They are mainly editorial corrections.

CPICH_Ec should have the unit of dBm/3.84MHz.

Clause 8.2.4.1a is added to include the case where UTRAN ask UE to perform HHO due to the change in data transmission rate.

	Changes in revision 5 are highlighted in yellow.		
	Clarify in clause 8.3.1.13 that CELL UPDATE CONFIRM message should be sent on the downlink DCCH using UM RLC.		
	Changes in revision 7 are highlighted in blue.		
	(from Ericsson)		
	8.2.2.7:		
	Clarification of conformance requirement, test procedure and test requirement according to the test purpose to verify that the UE transmit/not transmit data on the radio bearer after having received a continue/stop command.		
	8.2.2.8.4, 8.2.3.7.4, 8.2.4.7.4, 8.2.6.7.4, 8.2.6.15.4		
	Added value to New C-RNTI in RADIO BEARER SETUP message as otherwise the specified sequence would be wrong. When the UE enters CELL_FACH and does not have a C-RNTI it shall perform a CELL_UPDATE (TS 25.331 8.2.2.3). However, by supplying a C-RNTI in the configuration message and a scrambling code for the cell, the CELL_UPDATE is not performed by the UE.		
Consequences if solutions of the consequences	# The test prose cannot test UE correctly.		
Clauses affected:	ж сама на селото на с		
Other specs	#       Other core specifications       #         Test specifications       O&M Specifications		
Other comments:	# Affects Rel'99 and Rel'4 UE test cases.		

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 8.2.2 Radio Bearer Reconfiguration

## 8.2.2.1 Radio Bearer Reconfiguration (Hard handover) from CELL_DCH to CELL_DCH: Success

8.2.2.1.1 Definition

#### 8.2.2.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer and L1 according to the RADIO BEARER RECONFIGURATION message, which specifies a hard handover to another radio frequencyUL scrambling code and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. After executing the reconfiguration, the UE shall be able to communicate with the UTRAN on the newly configured radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.2.1.3 Test purpose

To confirm that the UE reconfigures a new-the radio bearers by followingaccording to a RADIO BEARER RECONFIGURATION message, which indicates a hard handover to another <u>UL scrambling coderadio frequency</u>.

### 8.2.2.1.4 Method of test

#### Initial Condition

System Simulator: 2-1 cells Cell 1 is active, Cell 6 is inactive.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108-, depending on the CN domain(s) supported by the UE in cell 1.

#### Test Procedure

#### Table 8.2.2.1

Parameter	Unit	Cell 1		Cell 6	
		<del>T0</del>	<del>T1</del>	<del>T0</del>	<del>T1</del>
UTRA RF		Ch. 1		Ch. 2	
Channel					
Number					
CPICH	dBm	<del>-73</del>	<del>-79</del>	switch	<del>-73</del>
RSCP				ed off	

Table 8.2.2.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.1 and broadcast BCCH on the primary CCPCH in cell 6. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which commands that a hard handover in the same cell to a new UL scrambling code to cell 6-be performed. The UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

### Expected sequence

Step	Dire	ction	Message	Comment
-	UE	SS		
1			Void	The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.2.1.
2			BCCHVoid	The SS starts to broadcast
				BCCH on the primary CCPCH in
				cell 6.
3	•	÷	RADIO BEARER	Hard handover to cell 6,UL
			RECONFIGURATION	scrambling code is modified.
4	-	$\overline{}$	RADIO BEARER	The UE shall stop all uplink
			RECONFIGURATION COMPLETE	transmissions to cell 1 and shall
				commence the reconfiguration of
				the affected physical channel
				parameters to that of cell 6.
5	-	<u>→</u>	RADIO BEARER	
			RECONFIGURATION COMPLETE	

## Specific Message Contents

## RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
<ul> <li>– UARFCN uplink(Nu)</li> </ul>	-Same uplink UARFCN as used for cell 6
	-Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
	<del>350</del>
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	1
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	InitialiseMaintain

## 8.2.2.1.5 Test requirement

After step 4-<u>3</u> the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the <del>DCCH</del> using AM RLC.After step 5 the UE shall change its physical channel configuration and communicate with the SS on the <del>DCCH</del> and <del>DTCH</del> using the dedicated physical channel in cell 6<u>new DPCH</u> after the specified activation time has <u>expired</u>.

## 8.2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.2.1 Definition

## 8.2.2.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause.

### Reference

3GPP TS 25.331 clause 8.2.2.

#### 8.2.2.2.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.

#### 8.2.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER	Including unsupported
			RECONFIGURATION	configuration by the UE
2	-	$\rightarrow$	RADIO BEARER	The UE does not change the
			RECONFIGURATION FAILURE	radio bearer.

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is <u>identical as "Speech in CS" or</u> <u>"Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS"</u> <u>identical as "Packet to CELL_DCH from CELL_DCH in PS"</u> as found in Annex with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink (Nu)	<u>63984.0</u>
- UARFCN downlink (Nd)	Not Present <u>950</u>

## RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

## 8.2.2.2.5 Test requirement

After step 2-1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration unsupported" set in IE "failure cause".

- 8.2.2.3 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)
- 8.2.2.3.1 Definition

## 8.2.2.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION messagebefore timer T312 expires. and UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

## Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new-radio bearer expires according to the RADIO BEARER RECONFIGURATION message before timer T312received previously.

8.2.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

<u>UE: CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10) as specified in clause 7.4 of TS</u> 34.108, depending on the CN domain(s) supported by the UE

UE: PS DCCH+DTCH_DCH (state 6 10) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message including the new radio bearer parameters to the UE but it keeps its current dedicated physical channel configuration to the UE which includes the new radio bearer parameters but it does not reconfigure L1 according to the settings found in the message. The UE shall revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "physical channel failure" in IE "failure cause".

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	
2			SS does not reconfigure L1 parameters to reflect the radio bearer reconfigurations specified in the message.
3	→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall detect a failure to reconfigure the new radio bearer, and send this message using the old radio bearer configuration.

### Specific Message Contents

## RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex <u>A.</u>

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A.

### RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Physical channel failure
Other information element	Not checked

## 8.2.2.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting value "physical channel failure" in IE "failure cause".

## 8.2.2.4 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.4.1 Definition

#### 8.2.2.4.2 Conformance requirement

The UE shall perform a cell update when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

#### Reference

3GPP TS 25.331 clause 8.2.2.

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### 8.2.2.4.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER SETUP FAILURE message after it completes a cell update procedure when the UE cannot reconfigure the new radio bearer and a subsequent failure to revert to the old configuration.

8.2.2.4.4 Method of test

Initial Condition

System Simulator: 2-1 cells.

<u>UE: CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.</u>

UE: PS DCCH+DTCH_DCH (state 6 10) as specified in clause 7.4 of TS 34.108 in cell 1.

### Test Procedure

The UE is in the CELL_DCH state in a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters, to the UE. After transmitting the reception of the acknowledgement for the RADIO BEARER RECONFIGURATION message in SS, the SS shall not reconfigure dedicated physical channel H in accordance to with the settings in the message and release the previous configuration. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not revert to old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "-physical channel failure" to IE "failure cause".

#### Expected sequence

Step	Direction	Message	Comment
0.00	UE SS		
1	<del>~</del>	RADIO BEARER RECONFIGURATION	
2			The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGURATION message and shall not userelease the old configuration.
3	$\rightarrow$	CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4	<b></b>	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements". The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
5	<u>+</u>	CELL UPDATE CONFIRM	This message include IE "Physical channel information elements". The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	$\rightarrow$	RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

## Specific Message Contents

## RADIO BEARER RECONFIGURATION message (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as as found in Annex A

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex.

### CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
<del>U-RNTI</del>	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

## CELL UPDATE CONFIRM (Step 45)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark	
U-RNTI	Same as CELL UPDATE message in step 3	
Frequency info		
– – ÚARFCN uplink(Nu)	Reference to TS34.108 clause 5.1 Test frequencies	
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies	
Maximum allowed UL TX power	<del>33dBm</del>	
CHOICE Mode	FDD	
RRC State indicator	<u>CELL_DCH</u>	
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to	
	move to intial condition	
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to	
	move to intial condition	
- Primary scrambling code	<del>100</del>	
	Not Present	
— - PDSCH code mapping	Not Present	
<ul> <li>Downlink DPCH info for each RL</li> </ul>		
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used	
- DPCH frame offset	<del>0 chips</del>	
	Not Present	
<ul> <li>DL channelisation code</li> </ul>		
<ul> <li>Secondary scrambling code</li> </ul>	2	
	Reference to TS34.108 clause 6.10 Parameter Set	
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter	
	Set)	
<ul> <li>Scrambling code change</li> </ul>	No change	
- TPC combination index	θ	
	<del>-a</del>	
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present	
	Not Present	

## RADIO BEARER RECONFIGURATION FAILURE (Step 7)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

## 8.2.2.4.5 Test requirement

After step 2 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE <u>shall</u> transmit <u>a PHYSICAL CHANNEL RECONFIGURATION COMPLETE</u> on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "-physical channel failure".

## 8.2.2.5 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.5.1 Definition

## 8.2.2.5.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION message, it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

## 8.2.2.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

<u>UE: CS-DCCH</u> DCH (state 6-5) or PS DCCH DCH (state 6-7) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

UE: PS DCCH_DCH (state 6 7) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER SETUP message expires. When the UE receives the RADIO BEARER RECONFIGURATION message, the UE shall keep the its current configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the RADIO BEARER RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the specified activation time and transmits a RADIO BEARER SETUP COMPLETE message on DCCH using AM RLC.

#### Expected sequence

Step	Direction		tep Direction Message	Comment	
	UE	SS			
1	•		RADIO BEARER SETUP	Including IE "Uplink DPCH info"	
2	÷		RADIO BEARER RECONFIGURATION	Sent before the "activation time"	
				in step 1 has elapsed	
3 →		<b>&gt;</b>	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the its configuration because of receivingaccording to the RADIO BEARER RECONFIGURATION message in step 2	
4	4 →		RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.	

### Specific Message Contents

### RADIO BEARER SETUP (Step 1)

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as "Non speech in CS" as found in Annex A or the RADIO BEARER SETUP message as found in clause 9 of TS 34.108, with following exceptions: For RADIO BEARER SETUP in step 1, use the message sub type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A.

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	<u>1</u>

## RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions as <u>"Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS"<u>as</u> found in Annex A with following exceptions:

Information Element	Value/remark
Activation Time	Not Present.
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	2

## RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

## 8.2.2.5.5 Test requirement

After step 1 The SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2, the UE shall keep its configuration as if the UE had not received the RADIO BEARER RECONFIGURATION message and shall-transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration". After step 4<u>3</u>, the UE communicates with the Ssshall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH and DTCH using the new physical channel parameters configured as a result of the RADIO BEARER SETUP messageusing AM RLC.

## 8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.2.6.1 Definition

## 8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which <u>does not</u> includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" having criticality defined as "Reject" any IEs except IE "Message Type". The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE " failure cause" and is set to "<u>ASN.1</u> violation or encoding error Information element value not comprehended" in IE "Protocol error cause".

The UE shall keep existing configuration before upon reception of a RADIO BEARER RECONFIGURATION message, which when the RADIO BEARER RECONFIGURATION message includes some IEs set to give an invalid valueconfiguration, and then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid RADIO BEARER RECONFIGURATION message containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with criticality defined as "Reject" which does not include any IEs except IE "Message Type".

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid valueconfiguration.

8.2.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH (state 6-9) or</u> PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which includes the undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" which eriticality is defined as "Reject" does not include any IEs except IE "Message Type". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause" and is set to "ASN.1 violation or encoding errorInformation element value not comprehended" in IE "Protocol error cause". The UE keeps initial current configuration and after SS transmits a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid value_configuration. Then UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "-invalid configuration" to IE "failure cause".

#### Release 417 3GPP TS 34.123-1 V4.0.0 (2001-09)

#### Expected sequence

Step	Direc	tion	Message	Comment
	UE	SS		
1	÷	-	RADIO BEARER RECONFIGURATION	See specific message content.
2	7	<b>&gt;</b>	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
3	÷	-	RADIO BEARER RECONFIGURATION	This message includes IE set to give an invalid value configuration.
4	12	<u>&gt;</u>	RADIO BEARER RECONFIGRATION	The UE does not change the configuration.
5		<b>≻</b>	RADIO BEARER RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions, with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range value. Not Present

## RADIO BEARER RECONFIGURATION FAILURE (Step 2)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
<ul> <li>Protocol error information</li> </ul>	
- Protocol error cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

## RADIO BEARER RECONFIGURATION (Step 3)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as <u>"Speech in CS" or</u> <u>"Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions, with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	1024
Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
	4
——- Dynamic Transport format information	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

## **RADIO BEARER RECONFIGURATION FAILURE (Step 5)**

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

## 8.2.2.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE "failure cause". The message shall contain the value <u>"ASN.1 violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration

After step 4-<u>3</u> the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

## 8.2.2.7 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Continue and stop)

8.2.2.7.1 Definition

### 8.2.2.7.2 Conformance requirement

If the IE "RB information to reconfigure" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

....

if the IE "RB stop/continue" is included; and

- if the "RB identity" has a value greater than 2; and

- if the value of the IE "RB stop/continue" is "stop":

configure the RLC entity for the radio bearer to stop;

set the IE "RB started" in the variable ESTABLISHED_RABS to "stopped" for that radio bearer;

- if the value of the IE "RB stop/continue" is "continue":

- configure the RLC entity for the radio bearer to continue;

set the IE "RB started" in the variable ESTABLISHED RABS to "started" for that radio bearer;

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2, <u>8.6.4.5</u>.

8.2.2.7.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have stop the transmission and reception of the RLC entity belonging to the RB identity specified the uplink transmission according to ain the RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and <u>restart the transmission and reception of the RLC entity</u> <u>belonging to the RB identity specified in the</u><u>don't transmit data according to a</u> RADIO BEARER RECONFIGURATION message-which indicates that uplink transmission is stopped.

8.2.2.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

### Test Procedure

The UE is in the-CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message including IE_"-RB stop/continue" set to "continue" for radio bearer with RB identity '3'. The UE reconfigures new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. Then, the SS transmits an IDENTITY REQUEST message using AM RLC, the UE responds a IDENTITY RESPONSE message. The SS transmits a RADIO BEARER RECONFIGURATION message including IE "RB stop/continue" set to "stop" for radio bearer with RB identity "3". The UE reconfigures new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. Then, the SS transmits a IDENTITY REQUEST message on the DCCH using AM RLC. Then, the SS transmits a IDENTITY REQUEST message on the DCCH using AM RLC. Then, the SS transmits a IDENTITY REQUEST message using AM RLC, the UE does not acknowledge this message and also does not respond with a IDENTITY RESPONSE message. Then, SS transmit a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE does not respond with a IDENTITY RESPONSE message. Then, SS transmit a RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE don't transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RECONFIGURATION	This message include IE_"-RB
				stop/continue-" <u>set to "continue"</u> .
2	-	$\rightarrow$	RADIO BEARER	
			RECONFIGURATION COMPLETE	
3	•	<del>(</del>	IDENTITY REQUEST	The SS Shall communicate with
				the UE.
<u>3a</u>	-	$\overline{}$	IDENTITY RESPONSE	
4	•	÷	RADIO BEARER	This message include IE "-RB
			RECONFIGURATION	stop/continue-" set to "stop".
5	-	$\rightarrow$	RADIO BEARER	
			RECONFIGURATION COMPLETE	
6		<u>+</u>	IDENTITY REQUEST	The SS shall not receive any
				data from the UE without
				Signalling message.
7	-	$\overline{}$		The SS shall not receive any
_				data from the UE.

## Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as <u>"Speech in CS" or</u> "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	<u>203</u>
-RB stop/continue	"continue"

## RADIO BEARER RECONFIGURATION (Step 4)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as <u>"Speech in CS" or</u> <u>"Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure	
-RB identity	<del>20</del> 3
-RB stop/continue	"stop"

### 8.2.2.7.5 Test requirement

After step 2-3 the UE shall respond with a IDENTITY RESPONSE message communicate with the SS using new configuration.

After step <u>5-6</u> the UE shall <u>not respond with a IDENTITY RESPONSE message</u> on the stopped RB communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

## 8.2.2.8 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.2.8.1 Definition

#### 8.2.2.8.2 Conformance requirement

The UE shall correctly reconfigure a-radio bearers according to a RADIO BEARER RECONFIGURATION message, which is communicate with the UTRAN on the new radio bearer in case of invoke a transition from CELL_DCH to CELL_FACH in the same cell and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Reference

1

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.8.3 Test purpose

To confirm that the UE establishes the reconfigured radio bearer(s) using common physical channel, after <u>UE receives</u> a RADIO BEARER RECONFIGURATION message has been received from the SS.

#### 8.2.2.8.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

#### **Test Procedure**

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which invoke a transition from CELL_DCH to CELL_FACH includes the new radio bearer parameters and sets up L1

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including the start of tx/rx. The UE reconfigures the new radio bearers and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		RADIO BEARER	
			RECONFIGURATION	
2	-	<u>≯</u>	RADIO BEARER RECONFIGURATION COMPLETE	The UE selects PRACH and S- CCPCH using indicated in SIB5 and SIB6 after entering CELL FACH state.
3	-	<del>}</del>	RADIO BEARER RECONFIGURATION COMPLETE	

### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exception:

Information Element	Value/remark
New C-RNTI	<u>0000 0000 0000 0001B</u>

## 8.2.2.8.5 Test requirement

After step 1 the UE shall reconfigure the radio links with the SS.

After step 3-1 the UE shall transmit a RADIO BEARER RECONFIGURATION message change its radio bearer configuration and communicate with the SS on the DCCH and DTCH, using the common physical channel.

## 8.2.2.9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.2.9.1 Definition

## 8.2.2.9.2 Conformance requirement

The UE shall initiate cell update procedure when the UE performs cell reselection during radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

#### Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.2.9.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURE-RECONFIGURATION COMPLETE message in cell2-after it completes a cell update procedure.

8.2.2.9.4 Method of test

Initial Condition

System Simulator: 2-1 cells - Cell 1 is active and cell 2 is inactive.

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#### UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

#### Table 8.2.2.9

Parameter	Unit	Ce	<del>   1</del>	Cell 2	
		<del>T0</del>	<del>T1</del>	<del>T0</del>	<del>T1</del>
UTRA RF Channel Number		<del>Ch. 1</del>		<del>Ch. 1</del>	
<del>CPICH</del> <del>RSCP</del>	<del>dBm</del>	-73	<del>-79</del>	switch ed off	<del>-73</del>

Table 8.2.2.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.9 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The SS transmits a RADIO BEARER RECONFIGURATION message, which includes IE"Primary CPICH info" and no dedicated physical channel information to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, the UE shall initial the cell update procedure to the UE as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits a RADIO BEARER RECONFIGURE RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

#### Expected sequence

Ste	p Dire	ction	Message	Comment
	UE	SS		
1			Void	The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.2.9.
2	-	←	BCCHVoid	The SS transmit the BCCH on
				the primary CCPCH in the cell2.
3		÷	RADIO BEARER	Assign a transition from
			RECONFIGURATION	CELL_DCH to CELL_FACH.This
				message include IE" Primary
				CPICH info"
4		$\rightarrow$	CELL UPDATE	The value "cell reselection" shall
				be set in IE "Cell update cause".
5		÷	CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI"".
6	-	$\rightarrow$	UTRAN MOBILITY INFORMATION	
			CONFIRM <u>Void</u>	
7		$\rightarrow$	RADIO BEARER RECONFIGURATION	
			COMPLETE	

## Specific Message Contents

## **RADIO BEARER RECONFIGURATION (Step 3)**

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary scrambling code	150

## CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
<del>U-RNTI</del>	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"Cell reselection radio link failure"

## CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is are identical same as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## 8.2.2.9.5 Test requirement

After step 3, the UE shall transmit CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

## After step 5 UE transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step <u>65</u>, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC_<u>setting IE "failure cause" to "cell reselection"</u>.

After step 7 the UE communicate with the SS on the DCCH and DTCH in cell2, using the common physical channel.

## 8.2.2.10 Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.10.1 Definition

#### 8.2.2.10.2 Conformance requirement

The UE shall correctly reconfigure a-radio bearers according to a RADIO BEARER RECONFIGURATION message, which is communicate with the UTRAN on the new radio bearer in case of <u>invoke</u> a transition from CELL_FACH to CELL_DCH in the same cell_and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.2.10.3 Test purpose

To confirm that the UE establishes a newreconfigures the radio bearers by following according to a RADIO BEARER RECONFIGURATION message-received from the SS.

8.2.2.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearers and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	ť	RADIO BEARER	This message includes IE
			RECONFIGURATION	"Uplink DPCH Info"
2				Reconfiguration of radio bearer
3	-	>	RADIO BEARER	
			RECONFIGURATION COMPLETE	

### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## 8.2.2.10.5 Test requirement

After step 2 the UE shall change its radio bearer configuration and transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC communicate with the SS on the DCCH and DTCH which are being carried by the DPCH physical channel resources.

## 8.2.2.11 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.2.11.1 Definition

#### 8.2.2.11.2 Conformance requirement

The UE shall keep its old-current configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause

#### Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.11.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the <u>received</u> RADIO BEARER RECONFIGURATION message <del>received</del> includes unsupported configuration parameters.

8.2.2.<u>1511</u>.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message, to the UE which includes unsupported configuration parameters, to the UE of the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	<del>.</del>	RADIO BEARER RECONFIGURATION	The message includes an unsupported configuration for the UE
2	$\rightarrow$		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink_(Nu)	<u>639840</u>
- UARFCN downlink (Nd)	Not Present <u>950</u>

## RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

## 8.2.2.11.5 Test requirement

After step_1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC stating "configuration unsupported" in IE " failure cause".

## 8.2.2.12 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old configuration)

8.2.2.12.1 Definition

## 8.2.2.12.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION messagebefore timer T312 expires and detects the same serving cell only. and The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.2.12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer <u>before timer T312</u> <u>expires</u> according to a RADIO BEARER RECONFIGURATION message.

8.2.2.12.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message-to the UE, which includes the new radio bearer parameters, to the UE and keep its current physical channel channel configuration does not reconfigure L1. Therefore, the UE cannot reconfigure the new-radio bearers and shall attempt cell reselection procedure after T312 expires to revert to the old configuration. Then the UE shall detect the same serving cell only and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE "failure cause".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	<b>+</b>		RADIO BEARER RECONFIGURATION	
2		<u>&gt;</u>	RADIO BEARER RECONFIGURATION FAILURE	The SS does not reconfigures L1 and the UE fails to reconfigure its radio bearers.including the start of tx/rx
3		<b>&gt;</b>	RADIO BEARER RECONFIGURATION FAILURE	The UE fails to reconfigure a new radio bearer.

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

### RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

### 8.2.2.12.5 Test requirement

After step <u>2-1</u> the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE "failure cause".

## 8.2.2.13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.13.1 Definition

### 8.2.2.13.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the radio bearer reconfiguration procedure. After the UE completes cell update procedure, the UE transmits <u>a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which <u>is set to "physical channel failure" in</u> IE "failure cause" to "physical channel failure".

#### Reference

3GPP TS 25.331 clause 8.2.2.

#### 8.2.2.13.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RECONFIGURATION FAILURE message after it completes a cell update procedure <u>due to a physical channel failure in the radio bearer reconfiguration procedure</u>.

8.2.2.13.4 Method of test

**Initial Condition** 

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

#### Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <del>RSCP<u>Ec</u></del>	dBm <mark>/3.84</mark> MHz	- <del>73<u>60</u></del>	- <del>79<u>75</u></del>	<del>switch</del> ed off <u>-</u> <u>75</u>	- <del>73<u>60</u></del>

#### Table 8.2.2.13

Table 8.2.2.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters, to the UE but SS does not reconfigure dedicated physical channel L1-in accordance with thesuch as catered to the new radio bearer settings in the message. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. Then the UE recognize that it cannot synchronize with the SS on the new radio bearers.finds a new cell 2 The UE performs cell reselection and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits_UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmita RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

Step	Direction		Message	Comment
	UE	SS		
1	•		RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGRATION message and applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.2.13delete the old configuration.
3			Void	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.2.13.
4	-	<del>.</del>	BCCH <u>Void</u>	The SS starts to transmit the BCCH in cell 2 on the primary CCPCH.
5	-	>	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6	*		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
7	-	>	UTRAN MOBILITY INFORMATION CONFIRMVoid	
8	-	<b>&gt;</b>	RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

## Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

## CELL UPDATE CONFIRM (Step 96)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u>. with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## RADIO BEARER RECONFIGURATION FAILURE (Step 98)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

## 8.2.2.13.5 Test requirement

After step 4 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

## After step 8 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit<u>a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

## 8.2.2.14 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.14.1 Definition

## 8.2.2.14.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION message, it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a RADIO BEARER RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received.

#### Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

## 8.2.2.14.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RECONFIGURATION, it shall keep its configuration as if the RADIO BEARER RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.2.14.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a <u>PHYSICAL CHANNEL RECONFIGURATION RADIO</u> BEARER SETUP message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the <u>PHYSICAL CHANNEL RECONFIGURATION RADIO BEARER SETUP</u> message expires. When the UE receives the RADIO BEARER RECONFIGURATION message, the UE shall keep the configuration as if it had not received the RADIO BEARER RECONFIGURATION message and shall transmit a RADIO RECONFIGURATION SETUP FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the RADIO BEARER <u>SETUP</u> <u>RECONFIGURATION FAILURE message</u>, the UE reconfigures the new physical channel parameters and transmits a <u>PHYSICAL CHANNEL RECONFIGURATION RADIO BEARER SETUP</u>-COMPLETE message on DCCH using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷	-	PHYSICAL CHANNEL RECONFIGURATIONRADIO BEARER SETUP	Including IE "Uplink DPCH info"
2	÷	-	RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous message.
3		<b>&gt;</b>	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the its configuration because of receivingaccording to the RADIO BEARER RECONFIGURATION message.
4	7	<b>&gt;</b>	PHYSICAL CHANNEL RECONFIGURATION RADIO BEARER SETUP-COMPLETE	This message is on DCCH using AM RLC

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION RADIO BEARER SETUP (Step 1)

For <u>PHYSICAL CHANNEL RECONFIGURATION</u> RADIO BEARER SETUP in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions.

Information Element	Value/remark	
Activation Time	Current CFN-[current CFN mod 8 + 8]	
Uplink DPCH Info		
- Scrambling code number	1	

### RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]Not Present
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	2

## RADIO BEARER RECONFIGURATION FAILURE

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

#### 8.2.2.14.5 Test requirement

After step 1, SS transmits a RADIO BEARER RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall-transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 3 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

After step 4 the UE communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

- 8.2.2.15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.2.15.1 Definition

#### 8.2.2.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which <u>does not</u> includes <u>undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" with</u> <u>eriticality defined as "Reject" any IEs except IE "Message Type"</u>. Then it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message setting "protocol error" in IE "failure cause" and also setting "<u>ASN.1</u> <u>violation error or encoding error Information element value not comprehended</u>" in IE "Protocol error cause". The UE shall keep <u>its current existing configuration before upon</u> reception of a RADIO BEARER RECONFIGURATION message, when the RADIO BEARER RECONFIGURATION message which includes some IEs set to give an invalid value configuration, and then the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

#### Reference

3GPP TS 25.331 clause 8.2.2.
## 8.2.2.15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RECONFIGURATION message which <u>does not</u> includes <u>undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"</u>, with criticality defined as "Reject" any <u>IEs except IE "Message Type"</u>.

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message including some IEs set to <u>give an</u> invalid <u>valueconfiguration</u>.

8.2.2.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the-CELL_FACH state. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which <u>does not</u> includes <u>all IEs except IE "Message Type</u>"<del>undefined value in the mandatory IE "UTRAN DRX</del> eycle length coefficient". The UE shall keep the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "protocol error" in IE "failure cause" and also set "<u>ASN.1 violation error or encoding error Information element value not comprehended</u>" in IE "Protocol error cause". The UE keeps <u>initial-current</u> configuration when SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to <u>give an</u> invalid <u>valueconfiguration</u>. The UE transmit<u>s a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

#### Expected sequence

Step	Direction		Message	Comment	
	UE SS				
1	€	-	RADIO BEARER RECONFIGURATION	See specific message content.	
2	2 →		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.	
3	3 ←		RADIO BEARER RECONFIGURATION	This message includes IE set to invalid value	
4	<u>→</u>		RADIO BEARER RECONFIGRATION	The UE does not change the configuration	
5	⇒ →		RADIO BEARER RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration	

#### Specific Message Contents

#### RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark	
UTRAN DRX cycle length coefficientAll IEs	Out of range value. Not Present	

## RADIO BEARER RECONFIGURATION FAILURE (Step 2)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark		
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"		
Failure cause			
- Failure cause	Protocol error		
<ul> <li>Protocol error information</li> </ul>			
- Protocol error cause	ASN.1 violation error or encoding errorInformation		
	element value not comprehended		
Other information element	Not checked		

## RADIO BEARER RECONFIGURATION (Step 3)

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	<u>512</u>
- DPCH frame offset	<u>1024</u>
Added or Reconfigured UL TrCH information	
<ul> <li>Uplink transport channel type</li> </ul>	DCH
<ul> <li>UL Transport channel identity</li> </ul>	2
<ul> <li>Dynamic Transport format information</li> </ul>	(This IE is repeated for TFI number)
	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
	Reference to TS34.108 clause 6.10 Parameter Set

## RADIO BEARER RECONFIGURATION FAILURE (Step 54)

The contents of RADIO BEARER RECONFIGURATION FAILURE message in this test case is the same as the RADIO BEARER RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark		
Message Type			
Failure cause	Invalid configuration		
Other information element	Not checked		

## 8.2.2.15.5 Test requirement

After step_1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, which contain includes the cause "protocol error" in IE "failure cause" and "ASN.1 violation error or encoding errorInformation element value not comprehended" in IE "Protocol error cause".

#### After step 3 the UE shall keep its old configuration.

After step 4-<u>3</u> the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

## 8.2.2.16 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Continue and Stop)Void

8.2.2.16.1 Definition

8.2.2.16.2 Conformance requirement

The UE shall continue or stop the uplink transmission when the UTRAN indicate stop or continue uplink transmission in radio bearer reconfiguration procedure.

#### Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.16.3 Test purpose

To confirm that the UE reconfigures new radio bearer and have the uplink transmission according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is continued.

To confirm that the UE reconfigures new radio bearer and don't transmit data according to a RADIO BEARER RECONFIGURATION message which indicates that uplink transmission is stopped.

8.2.2.16.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: PS DCCH+DTCH_FACH (state 6 11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes IE" RB stop/continue" set to "continue". The UE reconfigures new radio bearer and transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE communicates with the SS after transmission the RADIO BEARER RECONFIGURATION COMPLETE message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION message including IE" RB stop/continue" set to "stop". The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE reconfigures new radio bearer and transmits RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC. The UE shall not transmit any uplink data without Signalling message after transmission the RADIO BEARER RECONFIGURATION COMPLETE message.

#### Expected sequence

Step	Direc	tion	Message	Comment
	UE SS			
- 1	+	-	RADIO BEARER	The message includes IE "RB
			RECONFIGURATION	stop/continue" for one of the
				signalling radio bearer.
2				The UE select PRACH and S-
				CCPCH, using SIB5 or SIB6.
3	1	<del>}</del>	RADIO BEARER	
			RECONFIGURATION COMPLETE	
4	4			The SS Shall communicate with
				the UE.
5	+	-	RADIO BEARER	This message include IE" RB
			RECONFIGURATION	stop/continue ".
6				The UE select PRACH and S-
				CCPCH, using SIB5 or SIB6.
7	$7 \rightarrow$		RADIO BEARER	
			RECONFIGURATION COMPLETE	
8	8			The SS shall not receive any
				data from the UE without
				Signalling message.

#### Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
- RB information to reconfigure	
	3
	Set to "continue"

#### RADIO BEARER RECONFIGURATION FAILURE (Step 5)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
	3
	Set to "stop"

#### 8.2.2.16.5 Test requirement

After step 3 the UE shall communicate with the SS using new configuration.

After step 7 the UE shall communicate with the SS using new configuration, but shall not transmit any data to the SS without signalling message.

## 8.2.2.17 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success

8.2.2.17.1 Definition

## 8.2.2.17.2 Conformance requirement

The UE shall correctly reconfigure a-radio bearers and transit from CELL_FACH in the current cell to CELL_FACH in another cell according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer and a transition from CELL_FACH to CELL_FACH in the another celland responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.17.3 Test purpose

To confirm that the UE establishes a new radio bearers by following according to a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.17.4 Method of test

Initial Condition

System Simulator: <u>1-2</u> cell<u>s – Cell 1 and 2 are active</u>.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

## Test Procedure

## Table 8.2.2.17

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
CPICH Ec	dBm <mark>/</mark> 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.2.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message, which invoke a transition from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE-which includes the new transport channel parameter reconfigure for transit. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.17. The UE moves to cell 2 and configures the common physical channel reconfigures the new transport cannel and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

#### Expected sequence

Step	Direction		Message	Comment
	UE SS			
1	•	<u>.</u>	RADIO BEARER RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table <u>8.2.2.17.The UE select PRACH</u> and S-CCPCH using SIB5 or SIB6.
3	-	>	RADIO BEARER RECONFIGURATION COMPLETE	

## Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 21)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A_with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>150</u>

## 8.2.2.17.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC</u> in cell <u>2</u> change its radio bearer configuration and be in CELL_FACH

After step 4 the UE shall communicate with the SS on the DCCH and DTCH, using the common physical channel.

# 8.2.2.18 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.2.18.1 Definition

## 8.2.2.18.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during radio bearer <u>reconfiguration establishment procedure</u>. After the UE completes cell update procedure, the UE shall continue to perform a radio bearer reconfiguration procedure and correctly reconfigure the radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.18.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message in cell_2 after <u>it</u> completes a cell update procedure <u>instigated by a RADIO BEARER RECONFIGURATION message</u>.

8.2.2.18.4 Method of test

#### Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## **Test Procedure**

#### Table 8.2.2.18

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF		Ch. 1		Ch. 1	
Channel					
Number					
CPICH	dBm <mark>/</mark>	- <del>73</del> 60	- <del>79</del> 75	switch	- <del>73<u>60</u></del>
RSCPEc	<mark>3.84</mark>			ed off-	
	MHz			<u>75</u>	

Table 8.2.2.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the-CELL_FACH state in cell 1. On transmitting a RADIO BEARER RECONFIGURATION message to the UE, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.2.18-and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE transmits <u>a</u> CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit <u>a</u> CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits <u>UTRAN MOBILITY</u> INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC, setting the value " cell reselection" to IE "failure cause".

#### Expected sequence

Step	Direction	Message	Comment
-	UE SS	-	
1	÷	RADIO BEARER RECONFIGURATION	This message include IE "Primary CPICH info"
2			The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.1.9.
3	÷	BCCHVoid	The SS transmit the BCCH on the primary CCPCH in the cell 2.
4	$\rightarrow$	CELL UPDATE	The value "cell reselection" shall be set in IE "cell update cause".
5	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRMVoid	
7	$\rightarrow$	RADIO BEARER RECONFIGURATION COMPLETE	The IE "failure cause" shall be set to "cell reselection"

#### Specific Message Contents

#### RADIO BEARER RECONFIGURATION SETUP (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150Not Present

#### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
<del>U-RNTI</del>	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

## CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical same as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

#### 8.2.18.5 Test requirement

After step <u>3-2</u> the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM-RLC.

After step 6 UE <u>shall</u> transmits a RADIO BEARER <u>SETUP RECONFIGURATION</u> COMPLETE message on the DCCH using AM RLC

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

- 8.2.2.19 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)
- 8.2.2.19.1 Definition

## 8.2.2.19.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearers according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit<u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

#### 8.2.2.19.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, it ignores the new RADIO BEARER RECONFIGURATION message and configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message received.

If the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

<u>UE: CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10) as specified in clause 7.4 of TS</u> 34.108, depending on the CN domain(s) supported by the UE.

UE: PS DCCH+DTCH_DCH (state 6 10) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Dire	ction	Message	Comment
-	UE	SS		
1		<u>~</u>	RADIO BEARER RECONFIGURATION	The IE "Secondary scrambling code" is set to "1".Including IE "Uplink DPCH info"
<del>1a</del>				The SS set its Downlink DPCH scrambling code to "1".
2	*	-	RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed. The IE "Secondary scrambling code" is set to "2".
3	-	<b>&gt;</b>	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms performs configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

#### Specific Message Contents

#### RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as <u>"Speech in CS" or</u> "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
- Uplink DPCH Info	
<ul> <li>Secondary scrambling code</li> </ul>	1

## RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as <u>"Speech in CS" or</u> <u>"Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH InfoDL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2

## 8.2.2.19.5 Test requirement

After step <u>3-2</u> the UE shall communicate with the <u>SS</u> on the radio bearer specified in the<u>transmit a</u> RADIO BEARER RECONFIGURATION <u>COMPLETE</u> message on the DCCH using <u>AM RLC</u> in step 1.

## 8.2.2.20 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Success (Subsequently received)

- 8.2.2.20.1 Definition
- 8.2.2.20.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO

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BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit <u>a</u>RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.2, clause 8.6.3.11.

## 8.2.2.20.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, it ignores the new RADIO BEARER RECONFIGURATION message and configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message received. To confirm that if the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.20.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH_(state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures the radio bearers according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	÷	RADIO BEARER RECONFIGURATION	The IE "Secondary scrambling code" is set to "1".Including IE "Uplink DPCH info"
<del>1a</del>		The SS set its Downlink DPCH scrambling code to "1".	
2	÷	RADIO BEARER RECONFIGURATION	SS sends this message before the expiry of activation time specified in RADIO BEARER <u>SETUP RECONFIGURATION</u> message of step 1. The IE "Secondary scrambling code" is set to "2".
3	→ →	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

### Specific Message Contents

### RADIO BEARER RECONFIGURATION (step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

#### **RADIO BEARER RECONFIGURATION (step 1)**

Information Element	Value/remark
Activation Time <u>- Uplink DPCH Info</u>	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
<ul> <li>Secondary scrambling code</li> </ul>	1

#### RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH InfoDL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2

#### 8.2.2.20.5 Test requirement

After step <u>3-2</u> the UE shall communicate with the SS on the radio bearer specified in the<u>transmit a</u> RADIO BEARER RECONFIGURATION <u>COMPLETE</u> message on the DCCH using AM RLCin step 1.

## 8.2.2.21 Radio Bearer Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.2.21.1 Definition

#### 8.2.2.21.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL DCH state to CELL PCH state according to the received RADIO BEARER RECONFIGURATION message.

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to CELL_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

#### Reference

3GPP TS 25.331 clause 8.2.2.

#### 8.2.2.21.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message and enters before entering CELL_PCH state after it received receives a RADIO BEARER RECONFIGURATION, which invoke the UE to transit from CELL_DCH to CELL_PCH, from SS message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.21.4 Method of test

Initial Condition

System Simulator: 1 cell.

## UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message to the UE-using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message, <u>causing the UE to enter CELL FACH state</u> and the UE <u>shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state</u>.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER	
		RECONFIGURATION	
2	$\rightarrow$	RADIO BEARER	The UE sends this message
		RECONFIGURATION COMPLETE	before state transition.
3			The UE is in CELL_PCH
			state.Reconfiguration of Radio
			Bearer after state transition.
4	←	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	$\rightarrow$	CELL UPDATE	The UE is in CELL_FACH state.

#### Specific Message Contents

#### RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> Annex A-with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

## CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

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## 8.2.2.21.5 Test requirement

After step 1 the UE <u>shall</u> transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step <u>3-4</u> the UE shall <u>transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response"transit from CELL_DCH to CELL_PCH</u>.

## 8.2.2.22 Radio Bearer Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.2.22.1 Definition

## 8.2.2.22.2 Conformance requirement

The UE shall transmit_configure radio bearers so as to transit from CELL_DCH state to URA_PCH state according to received RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to URA_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure a radio bearer according to the RADIO BEARER RECONFIGURATION message.

#### Reference

3GPP TS 25.331 clause 8.2.2.

#### 8.2.2.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE and enters before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message. which invoke the UE to transit from CELL_DCH to URA_PCH, from SS.and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.2.22.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH_(state 6-10) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the URACELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message to the UE-using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and shall enters the CELL_FACH state after receiving this message. UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "paging response".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	<b>€</b>	-	RADIO BEARER RECONFIGURATION	
2		<b>&gt;</b>	RADIO BEARER	The UE sends this message
			RECONFIGURATION COMPLETE	before state transition.
3				The UE is in URA_PCH
				state.Reconfiguration of Radio
				Bearer after state transition.
4	€	-	PAGING TYPE 1	The SS transmits this message
				included a matched identity.
5	-	>	CELL UPDATE	The UE is in CELL_FACH state.

### Specific Message Contents

#### RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

#### PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> <u>Annex A-with</u> following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

## CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

#### 8.2.2.22.5 Test requirement

After step 1 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step <u>3-4</u> the UE shall <u>transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to</u> <u>"paging response"</u> transits from CELL_DCH to URA_PCH.

## 8.2.2.23 Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.2.23.1 Definition

#### 8.2.2.23.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL FACH state to CELL PCH state according to the received RADIO BEARER RECONFIGURATION message and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to CELL_PCH when receive a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

#### Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.23.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE <u>message and enters</u> before entering CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message-, which invoke the UE to transit from CELL_FACH to CELL_PCH and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.33.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH_(state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message, <u>causing the UE to enter CELL_FACH state</u> and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state again.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	<b>←</b>	RADIO BEARER	
		RECONFIGURATION	
2	$\rightarrow$	RADIO BEARER	The UE sends this message
		RECONFIGURATION COMPLETE	before state transition.
3			The UE is in CELL_PCH
			state.Reconfiguration of Radio
			Bearer after state transition.
4	<del>~</del>	PAGING TYPE 1	The SS transmits this message
			included a matched identity.
5	$\rightarrow$	CELL UPDATE	The UE is in CELL_FACH state.

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> <u>Annex A-</u>with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

## CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

#### 8.2.2.23.5 Test requirement

After step 1 the UE <u>shall</u> transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step <u>3-4</u> the UE shall <u>transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response" transit from CELL_DCH to CELL_PCH</u>.

## 8.2.2.24 Radio Bearer Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.2.24.1 Definition

## 8.2.2.24.2 Conformance requirement

The UE shall configure radio bearers so as to transit from CELL_FACH state to URA_PCH state according to the received RADIO BEARER RECONFIGURATION message and responds with a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to URA_PCH when receive a RADIO BEARER RECONFIGURATION message. And the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2.

## 8.2.2.24.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE <u>message and enters</u> before entering URA_PCH state after it received receives a RADIO BEARER RECONFIGURATION message, which invoke the UE to transit from CELL FACH to URA PCH and reconfigured its radio bearers. The UE is in URA_PCH state in the same cell.

8.2.2.24.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message to the UE-using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message, <u>causing the UE to enter CELL_FACH state</u> and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state again.

## Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			RADIO BEARER	
			RECONFIGURATION	
2	1.	<b>&gt;</b>	RADIO BEARER	The UE sends this message
			RECONFIGURATION COMPLETE	before state transition.
3				The UE is in URA_PCH
				state.Reconfiguration of Radio
				Bearer after state transition.
4	€		PAGING TYPE 1	The SS transmits this message
				included a matched identity.
5	-	>	CELL UPDATE	The UE is in CELL_FACH state.

#### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet</u> in PS)" in <u>default message content of TS 34.108</u> <u>Annex A-</u>with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

#### CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark	
Cell Update Cause	"paging response"	

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## 8.2.2.24.5 Test requirement

After step 1 the UE <u>shall</u> transmits a RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step <u>3-4</u> the UE shall <u>transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to</u> <u>"paging response".transit from CELL_FACH to URA_PCH</u>.

## 8.2.3 Radio Bearer Release

- 8.2.3.1 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success
- 8.2.3.1.1 Definition

#### 8.2.3.1.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.1.3 Test purpose

To confirm that the UE releases the existing radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.1.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) <u>or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE releases the radio <u>access</u> bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	€		RADIO BEARER RELEASE	
2		<u>&gt;</u>	RADIO BEARER RELEASE COMPLETE	Release the radio bearer.
3	$\rightarrow$		RADIO BEARER RELEASE COMPLETE	

#### Specific Message Contents

#### RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message are indicated as "Speech in CS" found in default message content clause 9 of TS 34.108. None.

### 8.2.3.1.5 Test requirement

After step 1 the UE shall release its radio bearers.

After step <u>3-2</u> the UE shall <u>transmit a RADIO BEARER RELEASE COMPLETE message</u>stop communicating on the released radio bearers, no uplink transmission shall be observed originating from the released link. The remaining radio bearers shall continue to be operational.

## 8.2.3.2 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.2.1 Definition

#### 8.2.3.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which includes unsupported configuration parameters and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value "configuration unsupported" in IE "-failure cause".

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.2.3 Test purpose

To confirm that the UE keeps its current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message indicates an unsupported configuration parameters for the UE.

8.2.3.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency which is not supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC indicating "configuration unsupported" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•		RADIO BEARER RELEASE	Including unsupported configuration by the UE
2	-	<b>&gt;</b>	RADIO BEARER <del>RELAESE</del> <u>RELEASE</u> FAILURE	The UE does not change the radio bearer.

#### Specific Message Contents

#### RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink <u> (</u> Nu)	<u>639840</u>
- UARFCN downlink <u>(</u> Nd)	Not Present950

## RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

## 8.2.3.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with the IE "failure cause" set to "configuration unsupported". The UE shall able to continue receiving and sending user data.

# 8.2.3.3 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.3.1 Definition

#### 8.2.3.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to <u>re</u>configure the <u>new</u>-radio bearer<u>s</u> by timer T312 expiry and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE " failure cause".

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer according to a RADIO BEARER RELEASE message by timer T312 expiry.

8.2.3.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message but it keeps its current dedicated physical channel configuration does not configure L1 correspondingly. This causes the UE to fail to release the radio bearer, and after T312 expiry expires the UE reverts to the old configuration. The UE then transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which specifies "physical channel failure" in IE "failure cause".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	ί.	RADIO BEARER RELEASE	
2				The SS <u>keeps its current</u> <u>dedicated physical channel</u> <u>configuration</u> does not configure <u>L1 to reflect the release of the</u> <u>indicated bearer</u> .
3	-	<b>&gt;</b>	RADIO BEARER RELEASE FAILURE	After T312 expiryexpires, the UE finds that it fails to release a radio bearer and reverts to the old configuration.

#### Specific Message Contents

#### RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in annex A.

## RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

#### 8.2.3.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which includes the value "physical channel failure" in IE "failure cause".

## 8.2.3.4 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.3.4.1 Definition

#### 8.2.3.4.2 Conformance requirement

The UE shall perform a cell update procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure. After the UE completes cell update procedure, the UE transmits <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.3.

## 8.2.3.4.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RELEASE FAILURE message after <u>it</u> completes a cell update procedure when the UE cannot revert to the old configuration after encountering a physical channel failure during the execution of a radio bearer release procedure.

## 8.2.3.4.4 Method of test

### **Initial Condition**

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108-, depending on the CN domain(s) supported by the UE in cell 1.

## **Test Procedure**

The UE is in the CELL_DCH state in cell 1. The SS transmits a RADIO BEARER <u>RELAESE RELEASE</u> message to the UE but does not configure <u>dedicated physical channel L1</u> in accordance with the settings in the message <u>and release</u> the previous configuration. As a result, the UE recognizes that it cannot reconfigure the radio bearers and wants to revert to the old configuration, but the UE cannot revert to the old configuration. <u>because the SS shall not revert to old configuration and tThe UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit <u>a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message</u>. The UE transmits <u>a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits <u>a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC</u>, setting IE "failure cause" to " physical channel failure".</u></u>

#### Expected sequence

Step	Direction		Message	Comment
-	UE S	SS		
1	÷		RADIO BEARER RELEASE	
2				The SS does not configure the dedicated physical channel in accordance with The the RADIO BEARER RELEASE message and shall not use release the old configuration.
3	$\rightarrow$		CELL UPDATE	This message include <u>s</u> the value "radio link failure" set in IE "Cell update cause".
4	÷		CELL UPDATE CONFIRM	This message include <u>s</u> IE "Physical channel information elements".
5				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	$\rightarrow$		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	$\rightarrow$		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

## Specific Message Contents

## RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case are identical as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in default message content clause 9 of TS 34.108<u>Annex A</u>.

## CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex<u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

## CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 3
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to
	move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to intial condition
Frequency info	
	Reference to TS34.108 clause 5.1 Test frequencies
	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	<del>33dBm</del>
CHOICE Mode	FDD
Downlink information for each radio links	
- Primary CPICH info	
	<del>100</del>
	Not Present
– PDSCH code mapping	Not Present
<ul> <li>— - Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
— DPCH frame offset	<del>0 chips</del>
	Not Present
<ul> <li>DL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2
——- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	<del>Set)</del>
	No change
————————————————————————————————————	θ
	<del>-a</del>
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
	Not Present

## RADIO BEARER RELEASE FAILURE (Step 7)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

[	Information Element	Value/remark
	Message Type	"RADIO BEARER RELEASE FAILURE"
	Failure cause	"physical channel failure"
	Other information element	Not checked

## 8.2.3.4.5 Test requirement

After step 2 the UE shall <u>a</u> transmit CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall <u>a</u> transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step <u>9-6</u> the UE shall <u>a</u> transmit RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

# 8.2.3.5 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.5.1 Definition

## 8.2.3.5.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE message, it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC.

If the UE receives a RADIO BEARER RELAESE message whilst reconfiguring due to a radio bearer message other than RADIO RELEASE SETUP, it shall keep its configuration as if the RADIO BEARER SETUP message had not been received.

## Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

## 8.2.3.5.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.3.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER <u>RECONFIGURATION SETUP</u>-message to the UE. The SS transmits a RADIO BEARER <u>RELEASE SETUP</u>-message before the "activation time" indicated in the RADIO BEARER <u>RECONFIGURATION SETUP</u>-message expires. When the UE receives the RADIO BEARER <u>RELEASE SETUP</u>-message, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration".-<u>After the SS receives the RADIO BEARER RELEASE FAILURE message</u> When the activation time lapses, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER <u>RECONFIGURATION SETUP</u>-COMPLETE message on DCCH using AM RLC.

#### Expected sequence

Step	Direction UE SS		Message	Comment		
1	÷		RADIO BEARER RECONFIGURATION <del>SETUP</del>			
2	÷		RADIO BEARER RELEASE	Message sent before the "Activation time" indicated in the message of step 1 has elapsed.		
3	<i>→</i>		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER RELEASE message.		
4	$\rightarrow$		RADIO BEARER <u>RECONFIGURATION</u> SETUP-COMPLETE	This message is on DCCH using AM RLC.		

#### Specific Message Contents

#### RADIO BEARER RECONFIGURATION SETUP (Step 1)

The contents of RADIO <u>BEARER RECONFIGURATION</u> <u>SETUP RELEASE</u> message in this test case is identical to the message sub-type title <u>as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS</u>Packet to CELL_DCH from CELL_DCH in PS" <u>as</u> found in Annex A, with the following exceptions:

Information Element-	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	1
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	<u>Maintain</u>

#### RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A. Information element(s) to be changed are listed below: The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH Info	
<u>- Scrambling code number</u>	<u>2</u>

#### RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark		
Message Type			
Failure cause	Incompatible simultaneous reconfiguration		
Other information element	Not checked		

#### 8.2.3.5.5 Test requirement

After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

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After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall-transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-<u>3</u> the UE <u>shall trasmit a RADIO BEARER RECONFIGURATION COMPLETE message</u><del>communicates</del> with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER SETUP message.

- 8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.3.6.1 Definition

#### 8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which <u>does not</u> includes <u>undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" any IEs except IE</u> <u>"Message Type"</u>. It shall transmit a RADIO BEARER RELEASE FAILURE message which <u>contains-includes</u> value "protocol error" in IE " failure cause" and value "<u>ASN.1 violation or encoding error Information element value not</u> <u>comprehended</u>" in IE " Protocol error cause". The UE shall keep existing configuration <u>before upon</u> reception of a RADIO BEARER RELEASE message, <u>which when the RADIO BEARER RELEASE message</u>-include some IEs set to give an invalid <u>valueconfiguration</u>, and then the UE shall transmit <u>a</u> RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message, which <u>does not include any IEs except IE "Message</u> <u>Type"uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"</u>.

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message including some IEs set to give an invalid valueconfiguration.

8.2.3.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid RADIO BEARER RELEASE message to the UE which does not any IEs except IE "Message Type" includes undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall indicate "protocol error" in IE "failure cause" and also " <u>ASN.1 violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid valueconfiguration. The UE keeps current configuration and transmits a RADIO BEARER RELEASE FAILURE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

#### Expected sequence

Step	Direction		Message	Comment		
•	UE	SS				
1	÷		RADIO BEARER RELEASE	See specific message content.		
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.		
3	÷		RADIO BEARER RELEASE	This message includes IE set to give an invalid value configuration		
4	1			The UE does not change the configuration		
5	$\rightarrow$		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration		

#### Specific Message Contents

#### RADIO BEARER RELEASE (Step1)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range valueNot Present

### RADIO BEARER RELEASE FAILURE (Step 2)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark		
Message Type			
Failure cause			
- Failure cause	Protocol error		
- Protocol error information			
- Protocol error cause	ASN.1 violation or encoding errorInformation element		
	value not comprehended		
Other information element	Not checked		

## RADIO BEARER RELEASE (Step 3)

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS"" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
<ul> <li>Default DPCH Offset Value</li> </ul>	<u>512</u>
- DPCH frame offset	<u>1024</u>
Added or Reconfigured UL TrCH information	
<ul> <li>Uplink transport channel type</li> </ul>	DCH
<ul> <li>UL Transport channel identity</li> </ul>	1
<ul> <li>— Dynamic Transport format information</li> </ul>	(This IE is repeated for TFI number)
	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
- RB identity	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

## RADIO BEARER RELEASE FAILURE (Step 5)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark		
Message Type			
Failure cause	Invalid configuration		
Other information element	Not checked		

## 8.2.3.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which is set to "protocol error" in IE "failure cause" and is set to "<u>ASN.1 violation or</u> <u>encoding error</u><u>Information element value not comprehended</u>" in IE "Protocol error cause".

#### After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

## 8.2.3.7 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success

8.2.3.7.1 Definition

#### 8.2.3.7.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC, when the common physical channel are requested to be used for the remaining radio bearers.

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.7.3 Test purpose

To confirm that the UE release the existing the radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DTCH+DCCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE releases the radio <u>access</u> bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

#### Expected sequence

Step	Direction	Message	Comment		
	UE SS				
1	÷	RADIO BEARER RELEASE	SS releases the radio bearer in the fashion specified in the message and allocate common channel resources to carry the remaining radio bearers.		
2			The UE selects PRACH and S- CCPCH <u>using indicated in</u> SIB5 and SIB6 after entering CELL FACH state. The UE shall release <del>radio</del> bearers on dedicated transport channels, and reconfigure the remaining radio bearers using the <del>selected</del> -common <del>control</del> channel.		
3	$\rightarrow$	RADIO BEARER RELEASE COMPLETE	UE shall be able to continue communication over the remaining radio bearers using the common control channels.		

Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exception:

Information Element	Value/remark
New C-RNTI	<u>0000 0000 0000 0001B</u>

## 8.2.3.7.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a RADIO BEARER RELEASE COMPLETE message</u>release the specified radio bearer(s) and cease any further uplink transmission from these radio bearer(s).

## 8.2.3.8 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.3.8.1 Definition

## 8.2.3.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a radio bearer release procedure. After the UE completes cell update procedure, the UE shall continue to perform the radio bearer release procedure and correctly release the radio bearer.

## Reference

3GPP TS 25.331 clause 8.2.3.

## 8.2.3.8.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RELEASE <u>FAILURE COMPLETE</u> message after the UE completes a cell update procedure.

## 8.2.3.8.4 Method of test

#### Initial Condition

System Simulator: 2-1 cells No.1 is active, No.2 is inactive.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

### **Test Procedure**

#### Table 8.2.3.8

Parameter	Unit	Cell 1		Cell 2	
		<del>T0</del>	<del>T1</del>	<del>T0</del>	<del>T1</del>
UTRA RF		<del>Ch. 1</del>		<del>Ch. 1</del>	
Channel					
Number					
CPICH	dBm	<del>-73</del>			<del>-73</del>
RSCP			<del>-79</del>	switch	
				ed off	

Table 8.2.3.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell No.1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.8 and broadcast BCCH on the primary CCPCH in cell 2... The SS transmits a RADIO BEARER RELEASE message as to request the UE to the transition from CELL_DCH to CELL_FACH. The UE reselects cell 2 and initiates the cell update procedure because the UE cannot detect the specified cell in this message. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1			Void	The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.3.8
2	-∢	÷	BCCHVoid	The SS starts to broadcast
				BCCH on the primary CCPCH in
				<del>cell2.</del>
3	←		RADIO BEARER RELEASE	Assigned the transition from
				CELL_DCH to CELL_FACH
4	$\rightarrow$		CELL UPDATE	The value "cell reselection" shall
				be set in IE "cell update cause".
5	←		CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI"".
6	$\rightarrow$		UTRAN MOBILITY INFORMATION	
			CONFIRM <u>Void</u>	
7	$\rightarrow$		RADIO BEARER RELEASE COMPLETE	

#### Specific Message Contents

#### RADIO BEARER RELEASE (Step 3)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	150

## CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

#### CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is *identical same* as "CELL UPDATE CONFIRM message" as found in <u>annex Annex A. with the following exceptions:</u>

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 7
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## 8.2.3.8.5 Test requirement

After step 3 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

## After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

## 8.2.3.9 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.9.1 Definition

## 8.2.3.9.2 Conformance requirement

The UE shall correctly release a-radio bearers according to a RADIO BEARER RELEASE message and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.9.3 Test purpose

To confirm that an UE, in state CELL_FACH, releases the radio access bearers <u>using common physical channel-on</u> RACH and FACH transport channels. After the release, it shall access the affected radio bearers on the <u>DPCHnewly</u> allocated DCH transport channel.

## 8.2.3.9.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. In this message, SS commands the UE to release radio <u>access</u> bearers on <u>common physical channel</u>RACH and FACH. At the same time, SS allocates DPCH to support the affected radio bearers. The UE shall release the indicated radio <u>access</u> bearers and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→ →		RADIO BEARER RELEASE	
2				UE shall release the radio access bearers carried by <u>common physical channel</u> RACH and FACH transport channels.
3	-	<b>&gt;</b>	RADIO BEARER RELEASE COMPLETE	

#### Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## 8.2.3.9.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a RADIO BEARER RELEASE COMPLETE message</u> stop communicating on the released radio bearers, and resume all stopped radio bearer using the dedicated physical channel allocated.

## 8.2.3.10 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.3.10.1 Definition

## 8.2.3.10.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message which specifies unsupported configuration parameters for the UE. Then the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which, setting value "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.3.

## 8.2.3.10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message requests for unsupported configuration unsported by parameters for the UE.

## 8.2.3.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER <u>RELAESE RELEASE</u> message to the UE, referring to a frequency which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

#### Expected sequence

ſ	Step	Direction		Message	Comment	
		UE SS				
	1	÷		RADIO BEARER RELEASE	The message contains a configuration not supported by the UE	
	2	$\rightarrow$		RADIO BEARER <del>RELAESE <u>RELEASE</u> FAILURE</del>	The UE shall not change the radio bearer configuration.	

#### Specific Message Contents

## RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink (Nu)	<u>639840</u>
- UARFCN downlink <u>(</u> Nd)	Not Present <u>950</u>

## RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

#### 8.2.3.10.5 Test requirement

After step 2-1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, stating the reason "configuration unsupported" in IE "failure cause".

## 8.2.3.11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old configuration)

8.2.3.11.1 Definition

## 8.2.3.11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to <u>re</u>configure the <u>new</u>-radio bearers before T312 timer <u>expiryexpires and detects the same serving cell only</u>. Then it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause" <u>after it reverts</u> to the old configuration.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearers in accordance with the specified settings in RADIO BEARER RELEASE message by before T312 timer expiry expires.

8.2.3.11.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message and <u>keeps its current</u> <u>physical channel configuration</u> <u>does not configure L1</u>. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer <u>expiryexpires</u>, the UE shall revert to the old radio bearer configuration, so the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→ →		RADIO BEARER RELEASE	
2				The SS does not configure the specified L1.
3	→		RADIO BEARER RELEASE FAILURE	After T312 expiry the UE fails to release a radio bearer and reverts to the old configuration.

## Specific Message Contents

## RADIO BEARER RELEASE

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in annex-Annex A.

## RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

#### 8.2.3.11.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

## 8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.3.12.1 Definition

#### 8.2.3.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the during a radio bearer release procedure. After the UE completes cell update procedure, the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set IE "failure cause" to "physical channel failure".

#### Reference

3GPP TS 25.331 clause 8.2.3.

#### 8.2.3.12.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RELEASE FAILURE message after it completes a cell update procedure following a physical channel failure during the radio bearer release <u>procedure</u>.

#### 8.2.3.12.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell-1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108-in cell No.1.

## Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <del>RSCP<u>Ec</u></del>	dBm/ <mark>3.84</mark> MHz	-73 <u>60</u>	- <del>79<u>75</u></del>	<del>switch</del> <del>ed off <u>-</u> 75</del>	- <del>79<u>60</u></del>

## Table 8.2.3.12

Table 8.2.3.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RELAESE message to the UE, but it does not configure the specified L1 in accordance to with the settings in the message. This is expected to cause the UE to experience a failure to release the radio bearer and it subsequently tries to revert to the old configuration. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.3.12 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. The UE shall find cell 2 and transmits CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure cell reselection".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	$\leftarrow$		RADIO BEARER RELEASE	
2				The SS does not configure <u>the</u> <u>specified</u> L1 in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.3.12.
3	<i></i>		BCCH <u>Void</u>	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4	<i>→</i>		CELL UPDATE	The UE finds a new cell 2 and enter CELL_FACH state. This message include <u>s</u> the value "cell reselection" set in IE "Cell update cause".
5	÷		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".
6	$\rightarrow$		UTRAN MOBILITY INFORMATION CONFIRMVoid	
7	$\rightarrow$		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"

## Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

#### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"
### CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A.with the following exceptions:</u>

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## RADIO BEARER RELEASE FAILURE (Step 7)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"RADIO BEARER RELEASE FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

### 8.2.3.12.5 Test requirement

After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection".

# After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

# 8.2.3.13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.13.1 Definition

### 8.2.3.13.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message during a reconfiguring procedure due to a radio bearer message other than RADIO BEARER RELEASE message, it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC.

If the UE receives a RADIO BEARER RELEASE message whilst reconfiguring due to a radio bearer message other than RADIO BEARER RELEASE, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received.

Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

8.2.3.13.3 Test purpose

To confirm that if the UE receives a RADIO BEARER RELEASE message whilst during a reconfiguring procedure due to a radio bearer message other than <u>a RADIO BEARER RELEASE message</u>, it shall keep its configuration as if the RADIO BEARER RELEASE message had not been received and complete the reconfiguration procedure according to the previously received message.

## 8.2.3.13.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_**DFA**CH state. The SS transmits a RADIO BEARER <u>RECONFIGURATION SETUP</u>-message to the UE. The SS transmits a RADIO BEARER RELEASE message before the "activation time" indicated in the RADIO BEARER <u>SETUP-RECONFIGURATION</u> message expires. When the UE receives the RADIO BEARER <u>RELEASESETUP-message</u>, the UE shall keep the configuration as if it had not received the RADIO BEARER RELEASE message and shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS <u>receives-acknowledges</u> the RADIO BEARER RELEASE FAILURE message, the UE reconfigures the new physical channel parameters <u>upon</u> the activation time and transmits a RADIO BEARER <u>RECONFIGURATION</u> <u>SETUP</u>-COMPLETE message on DCCH using AM RLC.

## Expected sequence

ſ	Step	Direction		Message	Comment
		UE	SS		
	1	÷		RADIO BEARER <u>RECONFIGURATIONSETUP</u>	The UE receive <u>s</u> any message other than RADIO BEARER RELEASE. (e.g. RADIO BEARER SETUP)
	2	÷	-	RADIO BEARER RELEASE	Sent before the expiry stated in of IE "Activation Time" of stated in message in step 1.
	3	_	<b>&gt;</b>	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER <u>RECONFIGURATION SETUP</u> message.
	4	-	>	RADIO BEARER <u>RECONFIGURATION</u> <del>SETUP</del> COMPLETE	This message is on DCCH using AM RLC.

## Specific Message Contents

## RADIO BEARER RECONFIGURATION SETUP (Step 1)

The contents of RADIO BEARER <u>RECONFIGURATION SETUP</u>-message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	<u>1</u>

## RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8 ]Not Present
Uplink DPCH Info	
<ul> <li>Scrambling code number</li> </ul>	2

## RADIO BEARER RELEASE FAILURE

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

### 8.2.3.13.5 Test requirement

After step 1, SS transmits a RADIO BEARER RELEASE message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER RELEASE message and shall-transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION SETUP message.

- 8.2.3.14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.3.14.1 Definition

### 8.2.3.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"does not include any IEs except IE "Message Type". It shall transmit a RADIO BEARER RELEASE FAILURE message which indicate the value "protocol error" in IE "failure cause" and setting "ASN.1 violation or encoding errorInformation element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before upon reception of a RADIO BEARER RELEASE message, which when the RADIO BEARER RELEASE message-includes some IEs set to give an invalid valueconfiguration, and then the UE shall transmit a RADIO BEARER RELEASE FAILURE including IE "failure cause" set to "invalid configuration".

### Reference

3GPP TS 25.331 clause 8.2.3.

### 8.2.3.14.3 Test purpose

To confirm that the UE transmits <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives an invalid RADIO BEARER RELEASE message which <u>does not include any IEs except IE "Message</u> <u>Type"uses a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient"</u>.

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message including some IEs set to give an invalid value configuration.

## 8.2.3.14.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: PS_DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_FACH state. The SS transmits an invalid RADIO BEARER <u>RELAESE_RELEASE</u> message, which does not include any IEs except IE "Message Type", to the UE-containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which shall indicate the reason-value "protocol error" in IE "failure cause" and also "ASN.1 violation or encoding errorInformation element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid valueconfiguration. The UE keeps current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	$\leftarrow$	RADIO BEARER RELEASE	See specific message content.
2	$\rightarrow$	RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.
3	÷	RADIO BEARER RELEASE	This message includes IE set to give an invalid value configuration.
4			The UE does not change the <u>its</u> configuration
5	$\rightarrow$	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration

### Specific Message Contents

## RADIO BEARER RELEASE (Step 31)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX IndicatorAll IEs	Out of range valueNot Present

## RADIO BEARER RELEASE FAILURE (Step 2)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

### RADIO BEARER RELEASE (Step 3)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	<u>1024</u>
Added or Reconfigured UL TrCH information	
<ul> <li>Uplink transport channel type</li> </ul>	DCH
	4
<ul> <li>Dynamic Transport format information</li> </ul>	(This IE is repeated for TFI number)
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
	Explicit List
	4
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

## RADIO BEARER RELEASE FAILURE (Step 5)

The contents of RADIO BEARER RELEASE FAILURE message in this test case is the same as the RADIO BEARER RELEASE FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

### 8.2.3.14.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also indicating "<u>ASN.1 violation or encoding errorInformation element value not comprehended</u>" in IE "Protocol error cause".

#### After step 3 the UE shall keep its old configuration.

After step 4-<u>3</u> the UE shall transmit <u>a</u> RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

# 8.2.3.15 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.15.1 Definition

### 8.2.3.15.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received and responds with a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

### Reference

3GPP TS 25.331 clause 8.2.3.

### 8.2.3.15.3 Test purpose

To confirm that the UE releases the existing the radio bearer(s) according to the RADIO BEARER RELEASE message received from the SS.

## 8.2.3.15.4 Method of test

### Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE releases the radio <u>access</u> bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

### Expected sequence

St	tep	Direction		Message	Comment
		UE	SS		
	1	•	ť.	RADIO BEARER RELEASE	
	2				The UE select <u>s</u> PRACH and S- CCPCH <u>using indicated in</u> SIB5 and SIB6. The UE shall release the requested radio bearer <del>(s), and</del> stop transmitting using these radio bearer(s).
	3	-	<del>)</del>	RADIO BEARER RELEASE COMPLETE	

### Specific Message Contents

## RADIO BEARER RELEASE

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

## 8.2.3.15.5 Test requirement

After step 1 the UE shall <u>transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC on the</u> <u>common physical channel</u><del>cease the transmission and reception of the affected radio bearers</del>.

After step 3 the UE shall stop communicating on radio bearers to be released.

- 8.2.3.16 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (Subsequently received)
- 8.2.3.16.1 Definition

## 8.2.3.16.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

### Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

## 8.2.3.16.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

## 8.2.3.16.4 Method of test

Initial Condition

System Simulator: 1 cell.

<u>UE: CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10) as specified in clause 7.4 of TS</u> 34.108, depending on the CN domain(s) supported by the UE

### UE: PS DCCH+DTCH_DCH (state 6 10) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio <u>access</u> bearer, the UE ignores the second RADIO BEARER RELEASE message and releases <u>the radio bearer</u> according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

### Expected sequence

Step	Direction		Message	Comment	
	UE	SS			
1	÷		RADIO BEARER RELEASE	The SS sets its UL scrambling code to "1".	
<del>1a</del>				The SS set its Downlink DPCH scrambling code to "1".	
2	•	<u>_</u>	RADIO BEARER RELEASE	Message sent before- the expiry of "activation time" specified in message of in step 1. The IE "Secondary scrambling code" is set to "2".	
3	-	<b>&gt;</b>	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and <del>confirms</del> release <u>radio</u> <u>bearer</u> according to the RADIO BEARER RELEASE message in step 1.	

### Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title <u>"Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS</u>" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
- Uplink DPCH Info	
<ul> <li>Secondary scrambling code</li> </ul>	1

### RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title <u>"Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS</u>" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH InfoDL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2

### 8.2.3.16.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

## 8.2.3.17 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.3.17.1 Definition

### 8.2.3.17.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases <u>the radio bearers</u> according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

### Reference

3GPP TS 25.331 clause 8.2.3, clause 8.6.3.11.

### 8.2.3.17.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message, it ignores the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

8.2.3.17.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_FACH state. The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio access bearer, the UE ignores the second RADIO BEARER RELEASE message and releases the radio bearers according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	- -	RADIO BEARER RELEASE	The SS sets its UL scrambling code to "1".
<del>1a</del>				The SS set its Downlink DPCH scrambling code to "1".
2	•	-	RADIO BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of RADIO BEARER RELEASE message in step 1. The IE "Secondary scrambling code" is set to "2".
3	-	<b>&gt;</b>	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and <del>confirms</del> -release <u>radio</u> <u>bearers</u> according to the RADIO BEARER RELEASE message in step 1.

## Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
- Secondary scrambling code	1

## RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH InfoDL channelisation code</li> </ul>	
- Secondary scrambling code	2

## 8.2.3.17.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

## 8.2.3.18 Radio Bearer Release from CELL_DCH to CELL_PCH: Success

8.2.3.18.1 Definition

## 8.2.3.18.2 Conformance requirement

The UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message <u>on uplink DCCH using AM RLC</u> before <u>completes-it transition-transits</u> from CELL_DCH to CELL_PCH when <u>UE</u> receives a RADIO BEARER RELEASE message. And then, the UE shall release radio <u>access</u> bearers according to the RADIO BEARER <u>RELEASE</u> <u>Release</u> message.

### Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.3.18.3 Test purpose

To confirm that the UE transmits <u>a</u>RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio <u>access</u> bearers. The UE is in CELL_PCH state of the same cell.

8.2.3.18.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmits <u>a</u> RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message <u>causing the UE to enter CELL FACH state and the UE shall transmit a</u> <u>CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" and the UE accepts it and enters the CELL_FACH state</u>.

### Expected sequence

1

Step	Direction	Message	Comment
	UE SS		
1	←	RADIO BEARER	
		RELEASE	
2	$\rightarrow$	RADIO BEARER	The UE sends this message
		RELEASE COMPLETE	before it completes state
			transition.
3	←	PAGING TYPE 1	The SS transmits this message
			included with a matched identity.
4	$\rightarrow$	CELL UPDATE	The UE is in CELL_FACH state.

### Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> <u>Annex A-</u>with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

## CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

## 8.2.3.18.5 Test requirement

After step 1 the UE transmits <u>a</u> RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

## 8.2.3.19 Radio Bearer Release from CELL_DCH to URA_PCH: Success

8.2.3.19.1 Definition

## 8.2.3.19.2 Conformance requirement

The UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message before <u>it completes transitiontransits</u> from CELL_DCH to <u>CELLURA_PCH</u> when <u>UE</u> receives a RADIO BEARER RELEASE message. And then, the UE shall release radio <u>access</u> bearers according to the RADIO BEARER <u>RELEASE</u> <u>Release</u> message.

Reference

3GPP TS 25.331 clause 8.2.2.

### 8.2.3.19.3 Test purpose

To confirm that the UE transmits <u>a</u>RADIO BEARER RELEASE COMPLETE before entering <u>CELLURA_PCH</u> state after it received a RADIO BEARER RELEASE message and released its radio bearers. The UE is in <u>CELL_PCH</u> state of the same cell.

8.2.3.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmits a RADIO BEARER RELEASE COMPLETE message to the UE-using AM RLC and enters into CELLURA_PCH state. The SS transmits a PAGING TYPE 1 message, and the UE-causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state.

#### Release 479 3GPP TS 34.123-1 V4.0.0 (2001-09)

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	<b></b>		RADIO BEARER RELEASE	
2	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message before <u>it completes state</u> transition.
3	÷		PAGING TYPE 1	The SS transmits this message included with a matched identity.
4	$\rightarrow$		CELL UPDATE	The UE is in CELL_FACH state.

### Specific Message Contents

## RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 3)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> Annex A-with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

## 8.2.3.19.5 Test requirement

After step 1 the UE transmits <u>a</u> RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC-before completes state transition.

After step 3 the UE shall transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response".

## 8.2.4 Transport channel reconfiguration

- 8.2.4.1 Transport channel reconfiguration from CELL_DCH to CELL_DCH (Hard handover to same radio frequency): Success with no transport channel type switching
- 8.2.4.1.1 Definition

## 8.2.4.1.2 Conformance requirement

The UE shall <u>transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using</u> <u>AM RLC after it correctly reconfigures</u> a-<u>the</u> radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover <u>by changing the scrambling code for the DPCH</u>to another cell. After the completion of this procedure, the UE shall be able to communicate with the SS on the new transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

## 8.2.4.1.3 Test purpose

To confirm that the UE reconfigures a new transport<u>the</u> channel <u>configuration</u> according to a TRANSPORT CHANNEL RECONFIGURATION message, which also specifies that a hard handover to by changing the scrambling code for the DPCHanother cell be performed simultaneously.

### 8.2.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active and cell 2 is inactive1 cell

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE. in cell 1

## Test Procedure

### Table 8.2.4.1

Parameter	Unit	Cell 1		Cell 2	
		Ŧ <del>O</del>	T1	Ŧ <del>O</del>	<del>T1</del>
<del>UTRA RF</del> <del>Channel</del> <del>Number</del>		<del>Ch. 1</del>		<del>Ch. 1</del>	
CPICH RSCP	<del>dBm</del>	- <del>73</del>	<del>-79</del>	<del>switch</del> ed off	<del>-73</del>

Table 8.2.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

#### Release 481 3GPP TS 34.123-1 V4.0.0 (2001-09)

The UE is in the CELL_DCH state-in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.1 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new configuration transport channel parameters to be applied in cell 2. The UE shall reconfigure the new configuration transport channel and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 2-using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.4.1
2	-∢	<u>-</u>	BCCHVoid	The SS starts to broadcast
				BCCH on the primary CCPCH in
				<del>cell2.</del>
3	•	÷	TRANSPORT CHANNEL	UL scrambling code is
			RECON <u>FI</u> GURATION	modified, Hard handover to cell 2.
				Including UE information
				elements("TFS"I)
4			Void	UE shall stop all uplink
				transmissions and reconfigure
				itself to use the new transport
				channel parameters
5	-	<b>&gt;</b>	TRANSPORT CHANNEL	
			RECONFIGURATION COMPLETE	

### Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION

Information Element	Value/remark
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	Different value from previous value
TrCH Information Elements	
Uplink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	Number of Transport blocks = 2
Downlink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	
	Number of Transport blocks = 2
Downlink information for each radio links	Same downlink UARFCN as used for cell 2
- Primary Scrambling Code	<del>150</del>
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	InitialiseMaintain

## 8.2.4.1.5 Test requirement

After step 3 the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the</u> <u>DCCH using AM RLC</u>reconfigure the radio links affected by the changes for uplink and downlink DCH. The UE shall stop transmitting on the uplink of cell 1.

After step 5 the UE shall continue to communicate with the SS on the DCCH and DTCH in cell 2, using the new Transport Format Set (TFS) applicable on the existing transport channel.

## 8.2.4.1a Transport channel reconfiguration (Transmission Rate Modification with Timing Maintained) from CELL_DCH to CELL_DCH of the same cell: Success 8.2.4.1a.1 Definition 8.2.4.1a.2 Conformance requirement The UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC after it correctly reconfigures the radio bearers according to the TRANSPORT CHANNEL **RECONFIGURATION** message, which specifies a hard handover to modify the transmission rate by (1) changing physical channel information and (2) changing either TFCS and TFS or TFCS only. Reference 3GPP TS 25.331 clause 8.2.4. 8.2.4.1a.3 Test purpose To confirm that the UE reconfigures the physical channel and transport channel configuration according to a TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover by changing physical channel information and either TFCS and TFS or TFCS only. 8.2.4.1a.4 Method of test Initial Condition System Simulator: 1 cell UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108. Note : Transmission rate shall be set to the maximum rate for the UE during the radio bearer establishment procedure. Test Procedure The UE is in CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE to modify the transmission rate which includes a new physical channel information and the TFCS is reconfigured to restrict the use of TFCI. The UE shall reconfigure the new configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. Next the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE to modify the transmission rate which includes new physical channel information and new TFCS and TFS. The UE shall reconfigure the new configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. Expected sequence Step Direction Message Comment UE SS 1 TRANSPORT CHANNEL $\leftarrow$ RECONFIGURATION TRANSPORT CHANNEL 2 $\rightarrow$ **RECONFIGURATION COMPLETE** TRANSPORT CHANNEL 3 ÷ RECONFIGURATION 4 $\rightarrow$ TRANSPORT CHANNEL

**RECONFIGURATION COMPLETE** 

Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
III Transport channel information for all transport	Not Present
channels	Not Frederik
Added or Reconfigured UL TrCH information	Not Present
DL Transport channel information common for all	
transport channel	-
- SCCPCH TFCS	Not Present
- CHOICE mode	FDD
- CHOICE DL parameters	Explicit
- DL DCH TFCS	
- CHOICE TFCI Signalling	Normal
- TFCI Field 1 Information	
- CHOICE TFCS representation	Complete reconfiguration
- TFCS complete reconfigure	
- CHOICE CTFC Size	Number of bits used must be enough to cover all
	combinations of CTFC from TS34.108 clause 6.10
	Parameter Set which is used in RADIO BEARER
	SETUP message in initial procedure.
- CTFC information	
- CTFC	This CTFC value is set as defined value to be restricted
	from the TFCS defined in RADIO BEARER SETUP
	message and repeated for TFC numbers.
- Power offset Information	Not Present
Added or Reconfigured DL TrCH information	Not Present

## 8.2.4.1a.5 Test requirement

After step 1 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

After step 3 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.4.2 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported configuration)

8.2.4.2.1 Definition

8.2.4.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause.

## Reference

3GPP TS 25.331 clause 8.2.4.

## 8.2.4.2.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.

### 8.2.4.2.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters unsupported of by the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event "configuration unsupported" in IE "failure cause".

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		TRANSPORT CHANNEL RECONGURATION	Including <del>unsupported</del> configuration <u>unsupported</u> by the UE
2	$\rightarrow$		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channel <u>s</u> .

### Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title <u>as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH in PSPacket to CELL_DCH in PSPacket to CELL_DCH in PS"</u> as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	<u>0.</u>
- UARFCN downlink (Nd)	<u>950</u>
TrCH Information Elements	
Uplink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	
	Number of Transport blocks = 4096
Downlink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	Selected value as the UE can not support.
-	Number of Transport blocks = 4096

## TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	<b>"TRANSPORT CHANNEL RECONFIGURATION</b>
	FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

## 8.2.4.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration unsupported" in IE "failure cause".

# 8.2.4.3 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.3.1 Definition

### 8.2.4.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by according to the received TRANSPORT CHANNEL RECONFIGURATION message and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

### Reference

3GPP TS 25.331 clause 8.2.4.

### 8.2.4.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new <u>configuration transport channel</u> according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new configurationtransport channel-parameters but the SS does not configure the new physical channel specified in this message and keep its old configurationit does not reconfigure the new transport channel. Therefore, the UE cannot synchronise with the SS on the new physical channel reconfigure them and have toshall revert to the old configuration after T312 expires. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE " failure cause".

### Expected sequence

Step	Direction	Direction Message	Comment
	UE SS		
1	÷	TRANSPORT CHANNEL RECONGURATION	Specifies a change in the TFS of the dedicated transport channel used.
2			The SS does not reconfigure the transport channel, leading to the UE unable to reconfigure the new transport channel <u>new</u> configuration.
3	→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE reverts to the old configuration and transmits this message.

### Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled <u>as "Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in <u>PS</u>Packet to CELL_DCH from CELL_DCH in <u>PS</u>" <u>as found in Annex A</u>.

## TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	<b>"TRANSPORT CHANNEL RECONFIGURATION</b>
	FAILURE"
Failure cause	Physical channel failure
Other information element	Not checked

## 8.2.4.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and it shall set the value "physical channel failure" in IE "failure cause".

# 8.2.4.4 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.4.1 Definition

## 8.2.4.4.2 Conformance requirement

The UE shall perform a cell update <del>upon failure of reconfiguration for a transport channel because of when</del> physical channel failure and reversion <u>failure occur</u>. After the UE completes cell update procedure, the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which set IE "failure cause" to "physical channel failure".

## Reference

3GPP TS 25.331 clause 8.2.4.

## 8.2.4.4.3 Test purpose

To confirm that the UE transmits <u>RADIO a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure when the UE cannot <u>synchronise with the SS on the new channel before T312</u> <u>expires and failsreconfigure the new transport channel due to a failure of L1 configuration and subsequently fail</u> to revert to the old configuration.

8.2.4.4.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108-, depending on the CN domain(s) supported by the <u>UE</u> in cell 1.

### Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The message specifies a new <u>configuration set of transport channel parameters</u> but the SS does not reconfigure the new channel specified in this message and release the old configurationL1 correspondingly. The UE cannot <u>synchronise with SS before T312 expires</u> reconfigure the new transport channel and shall attempt to revert to the old configuration. But SS shall not revert to old configuration. The UE cannot revert to the old configuration and then transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC and subsequently transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " physical channel failure".

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	*	<u>.</u>	TRANSPORT CHANNEL RECONFIGURATION	Specifies the use of a new setting for transport channel.
2				The SS does not reconfigure L1 in accordance with TRANSPORT CHANNEL RECONFIGURTION message and <u>release the shall not use old</u> configuration.
3	-	→	CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
4	*	<u> </u>	CELL UPDATE CONFIRM	This message include <u>s</u> IE "Physical channel information elements".
5				The SS changes physical channel configuration according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
6	-	>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	-	<b>&gt;</b>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

### Specific Message Contents

### TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled <u>as "Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_DCH from CELL_DCH in <u>PS</u>Packet to CELL_DCH from CELL_DCH in <u>PS</u>" as found in Annex A.

## CELL UPDATE (Step 3)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

### CELL UPDATE CONFIRM (Step 4)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to
	move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to intial condition
<del>U-RNTI</del>	Same as CELL UPDATE message in step 3
Frequency info	
	Reference to TS34.108 clause 5.1 Test frequencies
- UARFCN downlink(Nd)	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	<del>33dBm</del>
CHOICE Mode	FDD
Downlink information for each radio links	
<ul> <li>Primary scrambling code</li> </ul>	100
	Not Present
<ul> <li>PDSCH code mapping</li> </ul>	Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	<del>0 chips</del>
	Not Present
- DL channelisation code	
- Secondary scrambling code	2
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	<del>Set)</del>
<ul> <li>Scrambling code change</li> </ul>	No change
——- TPC combination index	θ
	- <del></del>
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present

## TRANSPORT CHANNEL_RECONGURATION FAILURE (Step 7)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONGURATION"
Failure cause	"physical channel failure"
Other information element	Not checked

## 8.2.4.4.5 Test requirement

After step 2 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 5 the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

# 8.2.4.5 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.5.1 Definition

## 8.2.4.5.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION message, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

## Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

## 8.2.4.5.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than <u>a</u> TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.4.5.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a RADIO BEARER

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SETUPTRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical configuration channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info"
2	•	÷	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3	-	<b>&gt;</b>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration due to the reception of TRANSPORT CHANNEL RECONFIGURATION message.
4	-	→	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

### Specific Message Contents

## RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as <u>as "Speech in CS" or</u> "<u>Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS</u>" <u>as found in Annex A with the following exceptions:</u>-

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	<u>1</u>

## TRANSPORT CHANNEL RECONFIGURATION (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the <u>message</u> sub-type indicated as as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as corresponding message found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
<u>Uplink DPCH info</u>	
<ul> <li>Scrambling code number</li> </ul>	2

## TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	<b>"TRANSPORT CHANNEL RECONFIGURATION</b>
	FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

### 8.2.4.5.5 Test requirement

After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall-transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-<u>3</u> the UE transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the new conjugation specified in step 1 communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION message.

- 8.2.4.6 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.4.6.1 Definition

## 8.2.4.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which <u>does not include any IEs except IE "Message Type</u>" makes use of a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE "failure cause" and also "<u>ASN.1</u> violation or encoding errorInformation element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration before upon reception of a TRANSPORT CHANNEL RECONFIGURATION message. which when the TRANSPORT CHANNEL RECONFIGURATION message includes some IEs set to give an invalid valueconfiguration, and then the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.4.

## 8.2.4.6.3 Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIG<u>U</u>RATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message <u>which does not</u> <u>include any IEs except IE "Message Type"</u> comprises an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid valueconfiguration.

8.2.4.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

## Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which does not include any IEs except IE "Message Type" includes a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE "failure cause" and also indicating "ASN.1 violation or encoding error Information element value

not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to <u>give an</u> invalid <u>valueconfiguration</u>. The UE keeps current configuration and transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	TRANSPORT CHANNEL	See specific message content.
			RECONFIGURATION	
2	-	→	TRANSPORT CHANNEL	The UE does not change the its
			RECONFIGURATION FAILURE	configuration.
3	•	÷	TRANSPORT CHANNEL	This message includes IE set to
			RECONFIGURATION	give an invalid valueconfiguration
4				The UE does not change the its
				configuration
5	-	$\rightarrow$	TRANSPORT CHANNEL	The IE "failure cause" shall be set
			RECONFIGURATION FAILURE	to "invalid configuration

### Specific Message Contents

### TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range valueNot Present

## TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION
	FAILURE"
Failure cause	
- Failure cause	Protocol error
<ul> <li>Protocol error information</li> </ul>	
- Protocol error cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

## TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions.

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical in Annex A for RRC tests with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	<u>1024</u>
Added or Reconfigured UL TrCH information	
<ul> <li>Uplink transport channel type</li> </ul>	DCH
	4
——- Dynamic Transport format information	(This IE is repeated for TFI number)
	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
	2
- LogicalChannel	Reference to TS34.108 clause 6.10 Parameter Set

## TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

## 8.2.4.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE "failure cause" and set value "<u>ASN.1 violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause".

### After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

## 8.2.4.7 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.4.7.1 Definition

### 8.2.4.7.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION message and transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC, after it is requested to perform a transition from CELL_DCH to CELL_FACH in the same cell in conjunction with the transport channel reconfiguration.

Reference

3GPP TS 25.331 clause 8.2.4.

### 8.2.4.7.3 Test purpose

To confirm that the UE reconfigures a new<u>the</u> Transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

## 8.2.4.7.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_DCH state. The SS transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION message to the UE and the UE performs a state transition from CELL_DCH to CELL_FACH in the same cell. The UE then reconfigures the new transport-channels according to this message and reconfigure the new physical channel according to the system information messages. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	TRANSPORT CHANNEL	IE "Uplink DPCH Info" and IE
			RECONFIGURATION	"Downlink DPCH Info" are not
				specified.
2				UE shall perform the
				reconfiguration of transport
				channel
3	-	>	TRANSPORT CHANNEL	
			RECONFIGURATION COMPLETE	

### Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exception:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

## 8.2.4.7.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the</u> <u>common physical channel</u> transit from <u>CELL_DCH to CELL_FACH</u> in the same cell, and then continue to communicate with SS on the new transport channel and common physical channels.

- 8.2.4.8 Void
- 8.2.4.9 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success (Cell re-selection)
- 8.2.4.9.1 Definition

## 8.2.4.9.2 Conformance requirement

The UE shall initiate a cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE completes <u>a</u> cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

Reference

3GPP TS 25.331 clause 8.2.4.

### 8.2.4.9.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE COMPLETE message after it completes a cell update procedure.

8.2.4.9.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1.

### Test Procedure

#### Table 8.2.4.9

Parameter	Unit Cell 1		<del>   1</del>	Cell 2	
		<del>T0</del>	<del>T1</del>	<del>T0</del>	<del>T1</del>
UTRA RF		Ch. 1		Ch. 1	
Channel					
Number					
CPICH	dBm	<del>-73</del>			<del>-73</del>
RSCP			<del>-79</del>	switch	
				ed off	

Table 8.2.4.9 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.9 and broadcast BCCH on the primary CCPCH in cell 2. Then, the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes IE"Primary CPICH info" and no dedicated physical channel information to transit from CELL_DCH to CELL_FACH, to the UE. As the UE cannot detect the specified cell, The the UE shall initiate a select cell 2 by performing cell re-selection procedure and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1			Void	The SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.2.4.9.
2	←	-	BCCHVoid	The SS starts to broadcast
				BCCH on the primary CCPCH in
				<del>cell2.</del>
3	←	-	TRANSPORT CHANNEL	This message include IE_"
			RECONGURATION	Primary CPICH info".
4	$  \rightarrow$	•	CELL UPDATE	The value "cell reselection" shall
				be set in IE "Cell update cause".
5		-	CELL UPDATE CONFIRM	This message include IE "new
				U-RNTI" and IE "new C-RNTI"".
6	$  \rightarrow$	F	UTRAN MOBILITY INFORMATION	
			CONFIRMVoid	
7	$\rightarrow$		TRANSPORT CHANNEL	
			RECONFIGURATION COMPLETE	

### Specific Message Contents

### TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions.

#### CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	150

### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
<del>U-RNTI</del>	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"radio link failurecell reselection"

### CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical same as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

### 8.2.4.9.5 Test requirement

After step 3 the UE shall transmit<u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 UE shall transmit <u>a</u> TRANSPORT CHANNEL <u>RECONFIGURATION</u> COMPLETE message on the DCCH using AM<u>RLC</u>.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

- 8.2.4.10 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Success
- 8.2.4.10.1 Definition

### 8.2.4.10.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to <u>a</u>TRANSPORT CHANNEL RECONFIGURATION message, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

### Reference

3GPP TS 25.331 clause 8.2.4.

## 8.2.4.10.3 Test purpose

To confirm that the UE reconfigures a new transport-channel using dedicated physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message-received from the SS.

8.2.4.10.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message-to the UE, which includes IE "Uplink DPCH info" and IE "Downlink DPCH info" leading to a state transition from CELL_FACH to CELL_DCH in the same cell, to the UE. The UE shall reconfigure the new transport-channel according to this message-and then reconfigure the new physical channel according to the system information message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		TRANSPORT CHANNEL	Includes both IE "Uplink DPCH
			RECONFIGURATION	Info" and IE "Downlink DPCH
				Info" in the message.
2				Reconfiguration of transport
				channel
3	$\rightarrow$		TRANSPORT CHANNEL	
			RECONFIGURATION COMPLETE	

## Specific Message Contents

### TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

### 8.2.4.10.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a TRANSPORT RECONFIGURATION COMPLETE message on the newly</u> <u>configured DPCH</u>. transit from CELL_FACH to CELL_DCH in the same cell, and continue to communicate with SS using the new transport channel configuration based on DPCH physical channels.

- 8.2.4.11 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)
- 8.2.4.11.1 Definition

### 8.2.4.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

### Reference

3GPP TS 25.331 clause 8.2.4

### 8.2.4.11.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC when it receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters.

8.2.4.11.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

### Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message-to the UE, which includes unsupported configuration parameters unsupported for by the UE, to the UE. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause".

### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		TRANSPORT CHANNEL RECONGURATION	The message includes unsupported configuration unsupported by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change <del>the transport channelits</del> configuration.

### Specific Message Contents

### TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink (Nu)	<u>0</u>
- UARFCN downlink (Nd)	<u>950</u>
TrCH Information Elements	
Uplink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	
	Number of transport blocks= 4096
Downlink transport Channels	
<ul> <li>Added or Reconfigured TrCH information list</li> </ul>	
	Number of transport blocks = 4096

## TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	<b>"TRANSPORT CHANNEL RECONFIGURATION</b>
	FAILURE"
Failure cause	Configuration unsupported
Other information element	Not checked

## 8.2.4.11.5 Test requirement

After step_1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "configuration unsupported" in IE "failure cause" of the message.

# 8.2.4.12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old channel)

8.2.4.12.1 Definition

## 8.2.4.12.2 Conformance requirement

The UE shall revert to the old configuration when the UE has failed to reconfigure the new transport channel requested and detects the same serving cell only. The UE shall, and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4.

### 8.2.4.12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

## 8.2.4.12.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

## Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message-to the UE, which includes the new transport channel parameters, to the UE. However, SS keeps its current physical channel configuration.does not reconfigure the new transport channel accordingly. Hence, the UE shall experience a failure in the reconfiguration process. After T312 expiryexpires, the UE shall revert to the old channel configuration. Then the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "physical channel failure" in IE "failure cause".

## Expected sequence

Γ	Step	Direction		Direction Message	Comment
		UE	SS		
	1		÷	TRANSPORT CHANNEL RECONGURATION	Message includes IE "Downlink DPCH Info" and IE "Uplink DPCH Info"
	2				SS does not reconfigure the transport-channel causing the UE to detect a physical channel failure.
	3		$\rightarrow$	TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry expires the UE shall revert to the old configuration and transmit this message.

## Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	TRANSPORT CHANNEL RECONFIGURATION
	FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

## 8.2.4.12.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

# 8.2.4.13 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.13.1 Definition

### 8.2.4.13.2 Conformance requirement

The UE shall initiate a cell update procedure when it selects another cell, following a physical channel failure in the transport channel reconfiguration procedure. After the UE completes <u>the cell</u> update procedure, the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.13.3 Test purpose

To confirm that the UE transmits <u>RADIO a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure, when the UE cannot reconfigure the new transport channel for the failure of <u>L1 configurationbefore timer T312 expires</u>.

8.2.4.13.4 Method of test

### Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1.

**Test Procedure** 

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF		Ch. 1		Ch. 1	
Channel					
Number					
CPICH	dBm <mark>/</mark>	- <del>73<u>60</u></del>		switch	- <del>73<u>60</u></del>
RSCPEc	<mark>3.84</mark>		- <del>79</del> 75	ed off-	
	MHz			<u>75</u>	

### Table 8.2.4.13

Table 8.2.4.13 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in a cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new set of configurationtransport channel-parameters. However, the SS does not reconfigure the specified configurationL1 and the new transport channel accordingly. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.13 and begins to broadcast the BCCH on the primary CCPCH in a cell 2. As a result, the UE cannot reconfigure-synchronise with the SS on the new DPCH before T312 expires the new transport channel. The UE initiates the cell re-selection procedure find that cell 2 is available, camp onto it, and transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value " physical channel failure" to IE "failure cause".

### Expected sequence

1

Step	Direction		Message	Comment	
	UE	SS			
1	÷		TRANSPORT CHANNEL RECON <u>FI</u> GURATION		
2				The SS does not reconfigure L1 and transport channel in accordance with the settings in the message, and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.4.13.	
3	-	<del>(</del>	BCCHVoid	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.	
4				The UE shall find cell 2, camp onto it,	
5	-	→	CELL UPDATE	This message include the value "cell reselection" set in IE "Cell update cause".	
6	•	÷ -	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI"".	
7	-	<del>}</del>	UTRAN MOBILITY INFORMATION CONFIRMVoid		
8	-	<b>&gt;</b>	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"	

### Specific Message Contents

## TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

### CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

### CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is are identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 5
New U-RNTI	
- SRNC Identity	<del>'0000 0000 0000 0001'</del>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## TRANSPORT CHANNELRECONGURATION FAILURE (Step 8)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark	
Message Type	"TRANSPORT CHANNEL RECONGURATION"	
Failure cause	"physical channel failure"	
Other information element	Not checked	

### 8.2.4.13.5 Test requirement

After step 4 the UE shall transmit <u>a</u> CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 7 the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

# 8.2.4.14 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.14.1 Definition

## 8.2.4.14.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION message, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

## 8.2.4.14.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than <u>a</u> TRANSPORT CHANNEL RECONFIGURATION, it shall keep its configuration as if the TRANSPORT CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.4.14.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.
# Test Procedure

The UE is in the CELL_DCH-FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the TRANSPORT CHANNEL RECONFIGURATION message, the UE shall keep the its current configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION message and shall transmit a <u>TRANSPORT CHANNEL</u> <u>RECONFIGURATION FAILURERADIO BEARER SETUP FAILURE</u>-message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the RADIO TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

# Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	<b></b>		RADIO BEARER RECONFIGURATION	Includes the IE "Uplink DPCH info".
2	÷		TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the Activation time specified in step 1.
3	→ →		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of reconfigure according to the TRANSPORT CHANNEL RECONFIGURATION RADIO BEARER SETUP message.
4	<i>→</i>		RADIO BEARER RECONFIGURATION COMPLETEFAILURE	This message is on DCCH using AM RLC.

# Specific Message Contents

# RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions-

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	<u>1</u>

# TRANSPORT CHANNEL RECONFIGURATION (Step 2)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" <u>as found in Annex A with the following exceptions</u>-

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8 ]Not Present
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	2

# TRANSPORT CHANNEL RECONFIGURATION FAILURE

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	<b>"TRANSPORT CHANNEL RECONFIGURATION</b>
	FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

# 8.2.4.14.5 Test requirement

After step 1, SS transmits a TRANSPORT CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the RADIO BEARER SETUP message and shall-transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-<u>3</u> the UE <u>shall transmit a</u> communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION <u>COMPLETE</u> message.

- 8.2.4.15 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.4.15.1 Definition

# 8.2.4.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which <u>does not</u> includes <del>an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient" any IEs except IE "Message Type"</del>. The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE "failure cause" and also "<u>ASN.1</u> <u>violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause". The UE shall keep existing configuration <del>before</del><u>upon the</u> reception of a TRANSPORT CHANNEL RECONFIGURATION message, <u>which when the TRANSPORT CHANNEL RECONFIGURATION message</u>-includes some IEs set to <u>give an</u> invalid <del>value</del><u>configuration</u>, and then the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

#### Reference

3GPP TS 25.331 clause 8.2.4.

#### 8.2.4.15.3 Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which <u>does not</u> <u>include any IEs except IE "Message Type"</u>uses a undefined value in the mandatory IE "UTRAN DRX cycle length <u>coefficient</u>".

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid value configuration.

8.2.4.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

# Test Procedure

The UE is in the-CELL_FACH state. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which does not includes any IEs except IE "Message Type", to the UEa undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE shall keep the old configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "protocol error" in IE "failure cause" and also "ASN.1 violation or encoding error Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid value configuration. The UE keeps its current configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

#### Expected sequence

Step	Direction		Message	Comment	
	UE	SS			
1	÷		TRANSPORT CHANNEL RECONFIGURATION	See <u>specific</u> message content.	
2	$\rightarrow$		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the its configuration.	
3	÷		TRANSPORT CHANNEL RECONFIGURATION	This message includes IE <u>s which</u> is set to give an invalid <del>value</del> configuration	
4				The UE does not change the its configuration.	
5	$\rightarrow$		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration	

#### Specific Message Contents

#### TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
All IEsUTRAN DRX cycle length coefficient	Out of range value.Not Present

# TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause - Failure cause	Protocol error
<ul> <li>Protocol error information</li> <li>Protocol error cause</li> </ul>	ASN.1 violation or encoding error Information element
Other information element	Not checked

#### TRANSPORT CHANNEL RECONFIGURATION (Step 3)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
- Default DPCH Offset Value	512
- DPCH frame offset	<u>1024</u>
Added or Reconfigured UL TrCH information	
<ul> <li>Uplink transport channel type</li> </ul>	DCH
	4
<ul> <li>— - Dynamic Transport format information</li> </ul>	(This IE is repeated for TFI number)
	Reference to TS34.108 clause 6.10 Parameter Set
- CHOICE Logical Channel list	Explicit List
	2
	Reference to TS34.108 clause 6.10 Parameter Set

# TRANSPORT CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of TRANSPORT CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the TRANSPORT CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

# 8.2.4.15.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the message shall specify "protocol error" in IE "failure cause" and also "<u>ASN.1 violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

# 8.2.4.16 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.16.1 Definition

#### 8.2.4.16.2 Conformance requirement

The UE shall remain in CELL_FACH state in another cell and transmit TRANSPORT CHANNEL <u>RECONFIGURATION COMPLETE message on the DCCH using AM RLC after and transition from CELL_FACH in</u> the current cell to CELL_FACH in the another another cell as requested in the received TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.4.

8.2.4.16.3 Test purpose

To confirm that the UE transits from CELL FACH in the current cell to CELL FACH in another cell reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

# 8.2.4.16.4 Method of test

# Initial Condition

System Simulator: <u>1–2 cells – Cell 1 and 2 are active</u>.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

# Test Procedure

# Table 8.2.4.16

Parameter <b>Parameter</b>	<u>Unit</u>	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
<u>UTRA RF</u> <u>Channel</u> <u>Number</u>		<u>Ch. 1</u>		<u>Ch. 1</u>	
CPICH Ec	<u>dBm</u> / 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.2.4.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings between columns "T0" and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the-CELL_FACH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes the parameters that invoke the UE to transit from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE, which includes new transport channel parameters. Then the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.16. The UE reconfigures the new transport channel and the new physical channel according to the system information messages. The UE moves to cell 2 and configures the new transport channels and the common physical channel according to the system information message and transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

# Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	ŧ	- -	TRANSPORT CHANNEL RECON <u>FI</u> GURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.4.16.Reconfiguration of a new transport channel
3	-	<b>&gt;</b>	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

# Specific Message Contents

# TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions.

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	<u>150</u>

# 8.2.4.16.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on</u> <u>DCCH using AM RLC in cell 2</u>transit from <u>CELL_FACH to CELL_FACH and continue to communicate with the SS</u> on the DCCH using the existing transport channel.

# 8.2.4.17 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success (Cell re-selection)

8.2.4.17.1 Definition

# 8.2.4.17.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a transport channel reconfiguration procedure. After the UE complete cell update procedure, the UE shall continue to perform the transport channel reconfiguration procedure and correctly reconfigure the transport channel.

# Reference

3GPP TS 25.331 clause 8.2.4.

# 8.2.4.17.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION <u>COMPLETE FAILURE</u> message after UE completes a cell update procedure <u>indicated by a TRANSPORT CHANNEL RECONFIGURATION</u> <u>message</u>.

8.2.4.17.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

# **Test Procedure**

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH RSCP <u>Ec</u>	dBm/ 3.84 MHz	- <del>73<u>60</u></del>	- <del>79<u>75</u></del>	switch ed off <u>-</u> 75	- <del>73<u>60</u></del>

#### Table 8.2.4.17

Table 8.2.4.17 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state in cell 1. On transmitting -a TRANSPORT CHANNEL RECONFIGURATION message, which does not include the IE"Primary CPICH info", the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.4.17 and broadcast BCCH on the primary CCPCH in cell 2. After the UE successfully camp onto cell 2, itThe UE shall initiate the cell reselection update procedure. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit <u>a</u> CELL UPDATE CONFIRM message on downlink CCCH after receiving <u>a</u> CELL UPDATE message. The UE transmit <u>a</u> UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

# Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	←	TRANSPORT CHANNEL	This message does not include
		RECONFIGURATION	IE "Primary CPICH info"
2			The SS applies the downlink
			transmission power settings,
			according to the values in
			columns "T1" of Table 8.2.4.17.
3	←	BCCH <u>Void</u>	The SS starts to broadcast
			BCCH on the primary CCPCH in
			<del>cell2.</del>
4	$\rightarrow$	CELL UPDATE	The value "cell reselection" shall
			be set in IE "Cell update cause".
5	←	CELL UPDATE CONFIRM	This message include IE "new
			U-RNTI" and IE "new C-RNTI".
6	$\rightarrow$	UTRAN MOBILITY INFORMATION	
		CONFIRM <u>Void</u>	
7	$\rightarrow$	TRANSPORT	
		CHANNELRECONFIGURATION	
		COMPLETE	

# Specific Message Contents

# TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	Not Present150

# CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u>. with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

# CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical same as "CELL UPDATE CONFIRM message" as found in Annex <u>A. with the following exceptions:</u>

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

# 8.2.4.17.5 Test requirement

After step 3 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM-RLC.

After step 6 UE shall transmit <u>a</u> TRANSPORT CHANNEL <u>RECONFIGURATION COMPLETE</u> FAILURE message on the DCCH using AM RLC.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

- 8.2.4.18 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)
- 8.2.4.18.1 Definition

# 8.2.4.18.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION complete message on the DCCH using AM RLC.

# Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

# 8.2.4.18.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.18.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures activation time specified in the previous TRANSPORT CHANNEL RECONFIGURATION message the radio bearer elapses, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷	-	TRANSPORT CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"Including IE "Uplink DPCH info"
<del>1a</del>				The SS set its Downlink DPCH scrambling code to "1".
2	÷	-	TRANSPORT CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in TRANSPORT CHANNEL SETUP message of step 1. The IE "Secondary scrambling code" is set to "2".
3		•	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and <del>confirms</del> <del>configurationconfigures</del> according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

#### Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

# TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
- Uplink DPCH Info	
<ul> <li>Secondary scrambling code</li> </ul>	1

# TRANSPORT CHANNEL RECONFIGURATION (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH InfoDL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2

# 8.2.4.18.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLCcommunicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.</u>

# 8.2.4.19 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.4.19.1 Definition

# 8.2.4.19.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

# Reference

3GPP TS 25.331 clause 8.2.4, clause 8.6.3.11.

# 8.2.4.19.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.19.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108.

#### Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the activation time specified in the previous TRANSPORT CHANNEL RECONFIGURATION message elapses the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT message according

RECONFIGURATION message. Finally, the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Direction		Message	Comment
_	UE	SS	_	
1	÷	<u>,</u>	TRANSPORT CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"Includes the IE "Uplink DPCH info"
<del>1a</del>				The SS set its Downlink DPCH scrambling code to "1".
2	*	<u>.</u>	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1. The IE "Secondary scrambling code" is set to "2".
3	3 →		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration configures according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

#### Specific Message Contents

# TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
<u>- Uplink DPCH Info</u>	
<ul> <li>Secondary scrambling code</li> </ul>	<u>1</u>

# TRANSPORT CHANNEL RECONFIGURATION (Step 2)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
- Secondary scrambling code	2

# 8.2.4.19.5 Test requirement

After step <u>3-2</u> the UE shall <u>transmit a communicate with the SS on the radio bearer specified in the TRANSPORT</u> CHANNEL RECONFIGURATION <u>COMPLETE</u> message <u>on the DCCH using AM RLC</u>in step 1.

# 8.2.4.20 Transport Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.4.20.1 Definition

# 8.2.4.20.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message <u>after it receives a</u> <u>TRANSPORT CHANNEL RECONFIGURATION message which invoke the UE to using and transits from</u> CELL_DCH to CELL_PCH-when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall <u>enter CELL_PCH state</u>reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message.

#### Reference

3GPP TS 25.331 clause 8.2.<u>24</u>.

8.2.4.20.3 Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message <u>and</u> <u>enters CELL_PCH state</u> before entering <u>CELL_PCH state</u> after it <u>received receives</u> a TRANSPORT CHANNEL RECONFIGURATION message, <u>which invoke the UE to transit from CELL_DCH to CELL_PCH</u> and reconfigured its radio bearers. The UE is in <u>CELL_PCH</u> state of the same cell.

8.2.4.20.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to CELL_PCH. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	1 ←		TRANSPORT CHANNEL RECONFIGURATION	
2	-	<b>&gt;</b>	TRANSPORT CHANNEL	The UE sends this message
			RECONFIGURATION COMPLETE	before start state transition.
3	3			The UE is in CELL_PCH
				state.Reconfiguration of
				Transport channel after state
				transition.
4	←		PAGING TYPE 1	The SS transmits this message
				included a matched identity.
5	-	<b>&gt;</b>	CELL UPDATE	The UE is in CELL_FACH state.

#### Specific Message Contents

# TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

# PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> <u>Annex A-</u>with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

# CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

# 8.2.4.20.5 Test requirement

After step 1 the UE <u>shall</u> transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE"Cell update cause" set to "paging response".

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

# 8.2.4.21 Transport Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.4.21.1 Definition

#### 8.2.4.21.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message <u>after it receives a</u> <u>TRANSPORT CHANNEL RECONFIGURATION message which invoke the UE to using and transits from</u> CELL_DCH to URA_PCH-<del>when receives a TRANSPORT CHANNEL RECONFIGURATION message</del>. And then, the UE shall <u>enter URA_PCH state</u><del>reconfigure radio bearers according to the TRANSPORT CHANNEL</del> <u>RECONFIGURATION message</u>.

#### Reference

3GPP TS 25.331 clause 8.2.24.

#### 8.2.4.21.3 Test purpose

To confirm that the UE transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message <u>and</u> <u>enters URA_PCH state</u>before entering URA_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to URA_PCH and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

# 8.2.4.21.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108.

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to URA_PCH. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE-using AM RLC and enters into-URA_PCH state. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state.

# Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1	•	-	TRANSPORT CHANNEL RECONFIGURATION	
2	-	<b>&gt;</b>	TRANSPORT CHANNEL	The UE sends this message
			RECONFIGURATION COMPLETE	before start state transition.
3				The UE is in URA_PCH
				state.Reconfiguration of
				Transport channel after state
				transition.
4	€	-	PAGING TYPE 1	The SS transmits this message
				included a matched identity.
5	_	>	Cell UPDATE	The UE is in CELL_FACH state.

# Specific Message Contents

# TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

# PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet</u> in PS)" in <u>default message content of TS 34.108</u> Annex A-with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

# CELL UPDATE (Step 5)

#### Release 4118 3GPP TS 34.123-1 V4.0.0 (2001-09)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"paging response"

# 8.2.4.21.5 Test requirement

After step 1 the UE <u>shall</u> transmits <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

# 8.2.5 Transport format combination control

# 8.2.5.1 Transport format combination control in CELL_DCH: restriction

8.2.5.1.1 Definition

# 8.2.5.1.2 Conformance requirement

The UE shall change the subset of <u>the allowed uplink</u> transport format combination <del>of uplink</del> when the UE receives TRANSPORT FORMAT COMBINATION CONTROL message.

#### Reference

3GPP TS 25.331 clause 8.2.5.

#### 8.2.5.1.3 Test purpose

To confirm that the UE does not transmit <u>any</u> data on the DTCH <u>for the signalling radio bearer in on</u> the uplink direction, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message sent from the SS, which is set to the value in IE "<u>Restricted TrCH information Allowed Transport format combination index</u>".

8.2.5.1.4 Method of test

**Initial Condition** 

System Simulator: 1_cell

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is in CELL_DCH state establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message using AM_RLC on the DCCH, which indicates that only TFC₀ TFO is allowed on the uplink for DCH transport channel on the DCCH. The SS transmits a UE CAPABILITY ENQUIRY message using AM_RLC on the downlink DCCH and wait for the reception of a STATUS PDU. The UE shall be restricted from transmitting the DCH carrying STATUS PDU and the SS does not receive the STATUS PDU reconfigure the TFCS, stop any transmission on DTCH logical channel and then continues the communication on DCCH only.

#### Expected sequence

Step	Dire	ction	Message	Comment
-	UE	SS		
1				UE is in CELL_DCH state with <u>a DCH for a signalling radio</u> <u>bearer and a DCH for a radio</u> <u>access bearer.a DTCH logical</u> <u>channel allocated for</u> <u>communication between UE</u> <u>and SS</u>
2	÷		TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates the UE that it is restricted to use the TFS defined in Restricted TrCH information IE as the DCH is not transmitted on the uplink DCCH. The UE shall use the TFC Subset as defined in value IE " Allowed Transport format combination index".
<u>2a</u>	<u> </u>		UE CAPABILITY ENQUIRY	The SS transmits this message to make the UE send an uplink STATUS PDU.
3				The UE shall not transmit <u>a</u> <u>STATUS PDU</u> any data on the <del>DTCH</del> .

# Specific Message Contents

# TRANSPORT FORMAT COMBINATION CONTROL

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
<ul> <li>Restricted TrCH information</li> </ul>	
<ul> <li>Uplink transport channel type</li> </ul>	<u>DCH</u>
<ul> <li>Restricted UL TrCH identity</li> </ul>	<u>5</u>
- Allowed TFI	<u>0</u>
<ul> <li>Allowed Transport format combination list</li> </ul>	
<ul> <li>Allowed transport format combination</li> </ul>	0 and 3(If initial state is "state 6-9")
<ul> <li>Allowed transport format combination</li> </ul>	0 and 5(If initial state is "state 6-10")

# 8.2.5.1.5 Test requirement

After step 2<u>a</u> the UE shall <u>not transmit a STATUS PDU on the uplink DCCH</u>stop transmitting data on the DTCH in the uplink.

8.2.5.2 Transport format combination control in CELL_DCH: release a restriction

8.2.5.2.1 Definition

# 8.2.5.2.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when it receives TRANSPORT FORMAT COMBINATION CONTROL message, specifying that an existing restriction for the usage of TFCS be removed.

# Reference

3GPP TS 25.331 clause 8.2.5.

#### 8.2.5.2.3 Test purpose

To confirm that the UE resume transmission of data on the<u>transmit</u> DTCH on the uplink <u>signalling radio bearer</u>, following the reception of <u>a</u> TRANSPORT FORMAT COMBINATION CONTROL message which include IE "<u>Minimum allowedFull</u> transport format combination set".

8.2.5.2.4 Method of test

Initial Condition

System Simulator: 1_cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

The UE is in CELL_DCH state-with DTCH allocated but fully restricted. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which indicates that only TF0 is allowed on the uplink for DCH transport channel on the DCCH. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which includes IE "Full transport format combination set" to remove the restriction for the uplink TFC. The SS transmits a UE CAPABILITY ENQUIRY message UE and UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The SS transmits a UE CAPABILITY INFORMATION CONFIRM. The UE cannot transmit the data on the DTCH, as a result of the restriction on the transport format combination. Next, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which include "Minimum allowed transport format combination set".

#### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1				UE is in CELL DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer.No data transmission on the DTCH with a restriction in the uplink direction, following the execution of test 8. 2.5.1.
2	•	<u>&lt;</u>	TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates to UE that it is restricted to the TFS defined in Restricted TrCH information IE as the DCH is not transmitted on the uplink DCCH. Use the TFCS according to IE "Minimum allowed Transport format combination index".
<u>3</u>	<b>*</b>	<u>-</u>	TRANSPORT FORMAT COMBINATION CONTROL	The SS indicates the UE that it removes the restriction to use the TFS defined in Restricted TrCH information IE in step 2.
<u>4</u>	<u> </u>	<u> </u>	<u>UE CAPABILITY ENQUIRY</u>	The SS transmits this massage to make the UE sends a response message.
5 3 <u>6</u>		<u>≯</u> €	UE CAPABILITY INFORMATION UE CAPABILITY INFORMATION CONFIRM	The UE begins to transmit the data on the DTCH.

# Specific Message Contents

# TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
<ul> <li>Restricted TrCH information</li> </ul>	
- Uplink transport channel type	<u>DCH</u>
- Restricted UL TrCH identity	<u>5</u>
- Allowed TFI	<u>0</u>

#### TRANSPORT FORMAT COMBINATION CONTROL (Step 3)

Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
<ul> <li>Full transport format combination set</li> </ul>	Null
TrCH information elements	
<ul> <li>-Minimum allowed transport format combination set</li> </ul>	5(If initial state is "state 6-9")
Minimum allowed transport format combination set	<del>6(If initial state is "state 6-10")</del>

# 8.2.5.2.5 Test requirement

After step 2-4 the UE shall transmit a UE CAPABILITY INFORMATION message begin to transmit the data on the DTCH in the uplink DCCH using AM RLC.

# 8.2.5.3 Transport format combination control in CELL_DCH: Failure (Incompatible simultaneous reconfiguration)Void

8.2.5.3.1 Definition

8.2.5.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT FORMAT COMBINATION CONTROL message before the UE reconfigures the transport channel completely according to a similar message received earlier. The UE shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.5.

8.2.5.3.3 Test purpose

To confirm that after the UE receives TRANSPORT FORMAT COMBINATION CONTROL message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message is received.

8.2.5.3.4 Method of test

**Initial Condition** 

System Simulator: 1 cell.

UE: PS DCCH+DTCH_DCH (state 6 10) as specified in clause 7.4 of TS 34.108.

# Test Procedure

The UE establishes a radio access bearer on the DCH for to be used for user data exchange. SS sends a TRANSPORT CHANNEL RECONFIGURATION message on the downlink DCCH, to request that the channel coding scheme for a DCH be changed. After this message has been acknowledged by the UE RLC AM entity, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which includes a full restriction of the TFCS used in the uplink. The UE shall detect a failure to reconfigure the TFCS, then it transmits TRANSPORT FORMAT COMBINATION CONTROL message on the uplink DCCH. After the activation time specified in the TRANSPORT CHANNEL RECONFIGURATION message has elapsed, the UE shall send TRANSPORT CHANNEL RECONFIGURATION message on the uplink DCCH. SS verifies that reconfiguration is completed by checking that the user data exchange is resumed on DTCH.

#### Expected sequence

Step	Direction		Message	Comment	
	UE	<del>\$\$</del>			
4				UE is in CELL_DCH	
				connected state, with a DTCH	
				logical channel for user-data	
				communication	
2	-∢	÷	TRANSPORT CHANNEL	Requesting for a change in	
			RECONFIGURATION	semi-static transport format for	
				DCH carrying the DTCH. The	
				dynamic part remains	
				unchanged.	
3	<u>з</u> ←		TRANSPORT FORMAT	Requesting for a full restriction	
			-COMBINATION CONTROL	on TFCS for the DCH carrying	
				DTCH.	
4	-	<del>}</del>	TRANSPORT FORMAT	The UE shall keep the TFC	
			-COMBINATION CONTROL FAILURE	subset as before the	
				TRANSPORT FORMAT	
				COMBINATION CONTROL	
				message was received	
5				The UE does not change the	
				configuration of TFC and the	
				UE continues reconfigure the	
				affected transport channel.	
6			TRANSPORT CHANNEL	UE shall resume exchange of	
			RECONFIGURATION COMPLETE	data over the DTCH logical	
				channel.	

#### Specific Message Contents

#### **TRANSPORT CHANNEL RECONFIGURATION**

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
TrCH Information Elements	
Uplink transport channels	
—- Added or reconfigured TrCH information list	
<ul> <li>Transport channel identity</li> </ul>	2
<ul> <li>Semi-Static Transport Format Information</li> </ul>	
	Select a different coding scheme from default message
	content

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in Uplink	Restricted TrCH information
Subset Representation Allowed TFIs	Not Present (All TFCs are restricted)

#### TRANSPORT FORMAT COMBINATION CONTROL FAILURE

Information Element	Value/remark
Message Type	<b>"TRNSPORT FORMAT COMBINATION CNTROL</b>
	FAILURE"
RRC transaction identifier	θ
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

#### 8.2.5.3.5 Test requirement

After step 3 the UE continue the transport channel reconfiguration as if no TRANSPORT FORMAT COMBINATION CONTROL message was received. Then it shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, stating the reason "Incompatible simultaneous reconfiguration" in IE "Failure cause".

After step 6 the UE shall resume communication with SS on DTCH using the requested channel coding scheme on the transport blocks.

- 8.2.5.4 Transport format combination control in CELL_DCH: Failure (Invalid message reception and Invalid configuration)
- 8.2.5.4.1 Definition

#### 8.2.5.4.2 Conformance requirement

The UE shall keep old-its current_configuration when it receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message. It shall then transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message, indicating "protocol error" in IE "failure cause" and "<u>ASN.1 violation or encoding errorInformation element value not comprehended</u>" in IE "Protocol error cause". The UE shall keep existing configuration before upon the reception of a TRANSPORT FORMAT COMBINATION CONTROL message, which when the TRANSPORT CHANNEL RECONFIGURATION message-includes some IEs set to give an invalid valueconfiguration, and then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

#### Reference

3GPP TS 25.331 clause 8.2.5.

#### 8.2.5.4.3 Test purpose

To confirm after the UE receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message, it transmits <u>a</u> TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL message has been received.

To confirm that the UE transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to give an invalid valueconfiguration.

# 8.2.5.4.4 Method of test

#### **Initial Condition**

System Simulator: 1 cell.

UE: DCCH+DTCH_DCH (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# **Test Procedure**

The UE is in CELL_DCH stateestablishes a radio access bearer on the DCH for a communication. The SS transmits an invalid TRANSPORT FORMAT COMBINATION CONTROL message which does not include any IEs except IE "Message Type". The UE shall then transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message which is set to "ASN.1 violation or encoding error" in IE "Protocol error cause" and continues the communication using the radio access bearer. The UE keeps initial configuration and SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to get an invalid valueconfiguration. The UE keeps its current configuration and transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting the value " invalid configuration" to IE "failure cause".

#### Expected sequence

Γ	Step	Direction		Message	Comment
		UE	SS		
	1				UE is in CELL DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer PRC connected
					state on the DTCH for a communication
	2	•	÷	TRANSPORT FORMAT COMBINATION CONTROL	See <u>specific</u> message content.
	3	-	<b>&gt;</b>	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change the its configuration
	4	•	÷	TRANSPORT FORMAT COMBINATION CONTROL	This message includes IE <u>s</u> set to <u>give an</u> invalid <del>value</del> configuration.
	5	-	<u>&gt;</u>	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE does shall not change the its configuration
	6	-	>	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The IE "failure cause" shall be set to "invalid configuration

#### Specific Message Contents

# TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Information Element	Value/remark
DPCH TFCS in uplink	Set to the value "MaxTFCValue"Not Present
<ul> <li>—- Minimum allowed Transport format combination</li> </ul>	
indexAll IEs	

# TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 3)

Information Element	Value/remark
Message Type	"TRANSPORT FORMAT COMBINATION CONTROL
	FAILURE"
RRC transaction identitifer	Checked to see if it is set to identical value of the same
	IE in the downlink TRANSPORT FORMAT
	COMBINATION CONTROL message.
Integrity check info	The presence if this IE is dependent on IXIT statements
	in TS 34.123-2. if integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall
	be absent.
Failure cause	"protocol error"
Protocol error information	
-Protocol error case cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

# TRANSPORT FORMAT COMBINATION CONTROL (Step 45)

<u>Use the same message sub-type titled "TRANSPORT FORMAT COMBINATION CONTROL" in Annex A with following exceptions:</u>

Information Element	Value/remark
TrCH information elements	
-DPCH/PUSCH TFCS uplink in uplink	
<ul> <li>Restricted TrCH information</li> </ul>	
<ul> <li>Uplink transport channel type</li> </ul>	<u>DCH</u>
<ul> <li>Restricted UL TrCH identity</li> </ul>	15 (for RACH transport channel identity)
- Allowed TFI	<u>0</u>
— Allowed Transport format combination list	
<ul> <li>Allowed transport format combination</li> </ul>	<del>10</del>

# TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 6)

Information Element	Value/remark
Message Type	<b>TRANSPORT FORMAT COMBINATION CONTROL</b>
	FAILURE"
RRC transaction identitifer	Checked to see if it is set to identical value of the same
	IE in the downlink TRANSPORT FORMAT
	COMBINATION CONTROL message.
Integrity check info	The presence if this IE is dependent on IXIT statements
	in TS 34.123-2. if integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall
	be absent.
Failure cause	Invalid configuration
Other information element	Not checked

# 8.2.5.4.5 Test requirement

After step <u>3-2</u> the UE shall keep its configuration before the TRANSPORT FORMAT COMBINATION CONTROL message was received and transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC. The UE shall set the value "protocol error" in IE "Failure cause" and the value "<u>ASN.1</u> violation or encoding error information element not comprehended" in IE "protocol error information". The UE shall continue communicate with SS using the radio access bearer.

#### After step 4 the UE shall keep its old configuration.

After step <u>5-4</u> the UE shall transmit <u>a</u> TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

# 8.2.6 Physical channel reconfiguration

- 8.2.6.1 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Success
- 8.2.6.1.1 Definition

# 8.2.6.1.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received, which is used for indicates a hard handover purposes procedure and transmit PHYSICAL CHANNEL <u>RECONFIGURATION COMPLETE message on the DCCH using AM RLC</u>. It shall be able to communicate with the UTRAN on the new frequency subsequently.

Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.1.3 Test purpose

To confirm that the UE reconfigures the physical channel parameters according to a PHYSICAL CHANNEL RECONFIGURATION message received from the SS. After the reconfiguration, the UE shall <u>be able to communicate</u> with the SS on the new physical channel resume normal transmission and reception operations.

8.2.6.1.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, depending to the CN domain(s) supported by the UE in cell 1.

Test Procedure

Paramotor	Unit	6	11 1	60	
Falameter	Unit		<del>II I</del>		
		<del>T0</del>	<del>T1</del>	<del>T0</del>	T1
UTRA RF		<del>Ch. 1</del>		<del>Ch. 2</del>	
Channel					
Number					
CPICH RSCP	dBm	-73	<del>-79</del>	switch ed off	-73

#### Table 8.2.6.1

Table 8.2.6.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.1 and broadcast BCCH on the primary CCPCH in cell 6. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes a new <u>UL scrambling code physical channel parameter specified in the "Frequency Info" IE</u>. The UE shall reconfigure the physical channel at the activation time specified in this message itself and tune to the new physical channel and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6 using AM RLC_after its transition.

#### Expected sequence

Step	Direction		Message	Comment
-	UE	SS		
4				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.1.
2	<del>~</del>		BCCH	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.
<u>31</u>	<i></i>		PHYSICAL CHANNEL RECONFIGURATION	Including new <u>UL scrambling</u> code frequency information.
4 <u>2</u>	<u>→</u>		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall stop uplink activities to cell 1 and begin to reconfigure the physical channel parameters.
5	-	<del>›</del>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

#### Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled <u>as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:</u>

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	1
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	Maintain

Information Element	Value/remark
Frequency info	
	Same uplink UARFCN as used for cell 6
	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary Scrambling Code	<del>350</del>
Downlink information common for all radio links	
<ul> <li>— - Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	Initialise

#### 8.2.6.1.5 Test requirement

After step 4-<u>1</u> the UE shall send-transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC-in cell 6.

After step 5 the UE communicate with SS, using DTCH and DCCH on the new dedicated physical channel in cell 6.

# 8.2.6.2 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Failure (Unsupported configuration)

8.2.6.2.1 Definition

# 8.2.6.2.2 Conformance requirement

The UE shall keep its <del>old</del> configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes an unsupported configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration unsupported" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.6.

# 8.2.6.2.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters for the UE.

# 8.2.6.2.4 Method of test

#### Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH</u> (state 6-10) as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes unsupported configuration parameters <u>unsupported</u> as the frequency cannot be supported by the UE. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unsupported" in IE "failure cause".

#### Expected sequence

Γ	Step	Direction		Message	Comment	
		UE	SS			
	1	÷		PHYSICAL CHANNEL RECONFIGURATION	Includes <del>an unsupported</del> configuration <del>as the frequency cannot be <u>un</u>supported by the UE</del>	
	2	<i>→</i>		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not <del>change the physical channel</del> reconfigure and continue to communicate using the old configuration.	

# Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink (Nu)	<u>639840</u>
- UARFCN downlink <u> (</u> Nd)	Not Present <u>950</u>

# PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Configuration unsupported
Other information element	Not checked

# 8.2.6.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

# 8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Failure (Physical channel failure and reversion to old channel)

8.2.6.3.1 Definition

#### 8.2.6.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by <u>before</u> the expiry of timer T312, and then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "physical channel failure" in IE " failure cause".

#### Reference

3GPP TS 25.331 clause 8.2.6.

#### 8.2.6.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to the received PHYSICAL CHANNEL RECONFIGURATION message by before timer T312 expiry.

8.2.6.3.4 Method of test

Initial Condition

System Simulator: 1 cell.

# UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes new <u>UL scrambling code frequency parameters</u>. However, the SS <u>keeps its current dedicated</u> <u>physical channel configuration does not reconfigure the new physical channel</u>. The UE <u>fails is expected to encounter a</u> <u>failure to synchronise with the SS on reconfigure the new physical channel and after T312 timer expiry expires the UE shall revert to the old configuration. Finally, the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC specifies "physical channel failure" in IE "failure cause".</u>

# Expected sequence

Step	Direction UE SS		Message	Comment
1	<del>~</del>		PHYSICAL CHANNEL RECONFIGURATION	Including a new <u>UL scrambling</u> codefrequency information.
2				The SS does not reconfigure the physical channel so that the UE fails to synchronise on reconfigure to the new physical channel.
3	→ PHYSIC RECON		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiryexpires, the UE shall revert to the old configuration and transmits this message.

# Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	1
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	Maintain

Use the message sub type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.

# PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

# 8.2.6.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE "failure cause".

- 8.2.6.4 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Failure (Physical channel failure and reversion failure)
- 8.2.6.4.1 Definition

# 8.2.6.4.2 Conformance requirement

The UE shall perform a cell update procedure when the UE fails to revert to the old configuration, after the detection of physical channel failure during the course of executing a physical channel reconfiguration procedure. After the UE completes <u>the</u> cell update procedure, the UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which <u>is</u> set IE "failure cause" to "physical channel failure".

Reference

3GPP TS 25.331 clause 8.2.6.

# 8.2.6.4.3 Test purpose

To confirm that the UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure when the UE <del>cannot</del> fails synchronise on the old physical channel after the UE <u>cannot</u> synchronise on <u>reconfigure</u> the new physical channel for the failure according to the received PHYSICAL <u>CHANNEL RECONFIGURATION message of L1 configuration</u> and for the failure of the reversion to the old configuration.

8.2.6.4.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 6 is inactive1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108-, depending on the CN domain(s) supported by the UE.in cell 1

# Test Procedure

Table 8	.2.6.4
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Parameter	Unit	Cell 1		Cell 6	
		<del>T0</del>	<del>11</del>	<del>T0</del>	<del>T1</del>
<del>UTRA RF</del> <del>Channel</del> Number		<del>Ch. 1</del>		<del>Ch. 2</del>	
<del>CPICH</del> RSCP	dBm	- <del>73</del>	<del>-79</del>	<del>switch</del> ed off	<del>-73</del>

Table 8.2.6.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in the-CELL_DCH state in cell 1. The SS configures its downlink transmission power settings according to eolumns "T1" in Table 8.2.6.4 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new <u>UL scrambling code uplink and downlink frequency parameters of cell 6</u>, but the SS does not configure the new physical channel and release the old configuration any dedicated physical channel in cell 6. The UE is expected to fails to synchronise on reconfigure the new dedicated physical channel and tries to revert to the old configuration. But the SS already deleted the old physical channel configuration and the UE cannot revert to the old configuration. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failure". The SS shall transmit <u>a</u> CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmits <u>a PHYSICAL</u>

<u>CHANNEL RECONFIGURATION COMPLETE</u> <u>UTRAN MOBILITY INFORMATION CONFIRM</u> message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "-physical channel failure" to IE "failure cause".

Step	Dire	ction	Message	Comment	
-	UE	SS			
1			Void	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.1.	
2	÷		BCCH <u>Void</u>	The SS starts to broadcast BCCH on the primary CCPCH in cell 6.	
3	÷		PHYSICAL CHANNEL RECONFIGURATION	The message includes new <u>UL</u> scrambling code frequency information.	
4				SS does not configure any dedicated physical channel <u>and</u> in cell 6, at the same time, it deletes the old configuration so the UE cannot reconfigure the new physical channel and cannot revert to the old configuration.	
5	<i>→</i>		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".	
6	<b></b>		CELL UPDATE CONFIRM	This message include <u>s</u> IE "Physical channel information elements".	
7				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.	
8		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE		
9	<i>→</i>		PHYSICAL CHANNELRECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"	

# Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION (Step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8 ]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	1
Downlink information common for all radio links	
<ul> <li>Downlink DPCH info common for all RL</li> </ul>	
- Timing Indicator	Maintain

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.

#### CELL UPDATE (Step 5)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	"radio link failure"

#### CELL UPDATE CONFIRM (Step 6)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
RRC State indicator	CELL_DCH
UplinkDPCH Info	Same as RADIO BEARER SETUP message used to
	move to intial condition
Downlink information for each radio links	Same as RADIO BEARER SETUP message used to
	move to intial condition
Frequency info	
	Reference to TS34.108 clause 5.1 Test frequencies
	Reference to TS34.108 clause 5.1 Test frequencies
Maximum allowed UL TX power	<del>33dBm</del>
CHOICE Mode	FDD
Downlink information for each radio links	
<ul> <li>Primary scrambling code</li> </ul>	100
	Not Present
	Not Present
<ul> <li>— Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
	<del>0 chips</del>
	Not Present
<ul> <li>DL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2
	Reference to TS34.108 clause 6.10 Parameter Set
	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	<del>Set)</del>
<ul> <li>Scrambling code change</li> </ul>	No change
——- TPC combination index	θ
	- <del>a</del>
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
	Not Present

# PHYSICAL CHANNEL RECONGURATION FAILURE (Step 9)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

#### 8.2.6.4.5 Test requirement

After step <u>2-4</u> the UE shall transmits <u>a</u> CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "radio link failure" in cell 1.

After step 7 the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to " physical channel failure".

- 8.2.6.5 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Failure (Incompatible simultaneous reconfiguration)
- 8.2.6.5.1 Definition

# 8.2.6.5.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION message, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION SETUP, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION SETUP message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

# 8.2.6.5.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.6.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108. depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is in the-CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall keep the configuration as if it had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS receives acknowledges the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

#### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1	•	÷	RADIO BEARER RECONFIGURATION	
2		<u>-</u>	PHYSICAL CHANNEL RECONFIGURATION	Sent before the "Activation activation Time-time Info" specified in the message in step 1 has elapsed.
3	-	<b>&gt;</b>	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message.
4	-	<b>&gt;</b>	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.

#### Specific Message Contents

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#### RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as <u>"Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS</u>" as found in Annex A with the following exceptions:

Value/remark
Current CFN-[current CFN mod 8 + 8 ]
<u>1</u>
<u>Maintain</u>

#### PHYSICAL CHANNEL RECONFIGURATION (Step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL DCH from CELL DCH in PS" as found in Annex A, with the following exceptions:

Information Element	Value/remark	
Activation Time	Not Present	
Uplink DPCH info		
<ul> <li>Scrambling code number</li> </ul>	2	
Downlink information common for all radio links		
<ul> <li>Downlink DPCH info common for all RL</li> </ul>		
- Timing Indicator	<u>Maintain</u>	
The contents of PHYSICAL CHANNEL RECONFICURATION message in this test area is identical to the message		

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8 ]

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

# 8.2.6.5.5 Test requirement

After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall-transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-<u>3</u> the UE <u>shall transmit acommunicates with the SS on the DCCH and DTCH using the new physical</u> channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION <u>COMPLETE</u> message using AM RLC on the DCCH.

- 8.2.6.6 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Failure (Invalid message reception and Invalid configuration)
- 8.2.6.6.1 Definition

# 8.2.6.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message, which <u>does not</u> includes <u>any IEs except IE</u> "<u>Message Type</u>"<u>undefined value in the</u> mandatory IE "UTRAN DRX cycle length coefficient". It shall then transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message which contains the value "protocol error" in IE "failure cause" and also "<u>ASN.1 violation or encoding error</u>Information element value not comprehended" in IE "Protocol error cause". The UE shall keep existing configuration <del>before upon</del> reception of a <u>PHYSICAL TRANSPORT</u>-CHANNEL RECONFIGURATION message when the <u>PHYSICAL TRANSPORT</u>-CHANNEL RECONFIGURATION message that includes some IEs set to give an invalid <u>configurationvalue</u>, and then the UE shall transmit <u>a PHYSICAL</u> TRANSPORT CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration".

Reference

3GPP TS 25.331 clause 8.2.6.

# 8.2.6.6.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives an invalid PHYSICAL CHANNEL RECONFIGURATION message which <u>does not</u> <u>include any IEs except IE "Message Type" uses a undefined value in the mandatory IE "UTRAN DRX cycle length</u> <del>coefficient"</del>.

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message including some IEs set to give an invalid value configuration.

8.2.6.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, <u>depending on the CN domain(s) supported by the UE</u>.

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE, which does not include any IEs except IE "Message Type" with a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with a value "protocol error" in IE "failure cause" and also a value "ASN.1 violation or encoding errorInformation element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and SS transmits a PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid valueconfiguration. The UE keeps its initial configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause".

# Expected sequence

Step	Direction	Message	Comment
	UE SS	1	
1	÷	PHYSICAL CHANNEL RECONFIGURATION	See <u>specific</u> message content.
2	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the its configuration.
3	÷	PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which is set to give an invalid valueconfiguration
4			The UE does not change the its configuration
5	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

# Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAllIEs	Out of range valueNot Present

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
<ul> <li>Protocol error information</li> </ul>	
- Protocol error cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

# PHYSICAL CHANNEL RECONFIGURATION (Step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title <u>as "Speech in CS" or "Non speech in CS" or</u> "Packet to CELL_FACH from CELL_DCH in PS" <u>as found</u> in Annex A with the following exceptions:

Information Element	Value/remark
<ul> <li>Default DPCH Offset Value</li> </ul>	<u>512</u>
- DPCH frame offset	1024
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<del>100</del>
	Not Present
	Not Present
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	Primary CPICH may be used
- DPCH frame offset	<del>0 chips</del>
	Not Present
<ul> <li>Secondary scrambling code</li> </ul>	4
	Reference to TS34.108 clause 6.10 Parameter Set
	SF-1(SF is reference to TS34.108 clause 6.10 Parameter
	<del>Set)</del>
<ul> <li>Scrambling code change</li> </ul>	No change
- TPC combination index	θ
	<del>-a</del>
<ul> <li>Closed loop timing adjustment mode</li> </ul>	Not Present
	Not Present

# PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 5)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

# 8.2.6.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "protocol error" in IE "failure cause" and also setting value "ASN.1 violation or encoding error Information element value not comprehended" in IE "Protocol error cause".

#### After step 3 the UE shall keep its old configuration.

After step 4 the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "-invalid configuration".

# 8.2.6.7 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success

8.2.6.7.1 Definition

# 8.2.6.7.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, when asked to perform a which invoke the UE to transition from CELL_DCH to CELL_FACH_and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

# Reference

3GPP TS 25.331 clause 8.2.6.

# 8.2.6.7.3 Test purpose

To confirm that the UE reconfigures a <u>common new physical channel according to the PHYSICAL CHANNEL</u> RECONFIGURATION message<u>, which invoke the UE to transit from CELL_DCH to CELL_FACH-received from the</u> <u>SS</u>.

8.2.6.7.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

# Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the <u>specified common new</u> physical channel according to this message and the system information messages. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the <u>DCCHRACH</u>.

# Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	•	÷	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration. Reconfiguration of physical channel
3	-	<b>&gt;</b>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

#### Specific Message Contents

# PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exception:

Information Element	Value/remark
New C-RNTI	<u>0000 0000 0000 0001B</u>

# 8.2.6.7.5 Test requirement

After step <u>3-2</u> the UE shall transit from CELL_DCH to CELL_FACH and <u>transmit a PHYSICAL CHANNEL</u> <u>RECONFIGURATION COMPLETE message</u> continue to communicate with SS-on the common physical channel.
# 8.2.6.8 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success (Cell re-selection)

8.2.6.8.1 Definition

## 8.2.6.8.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.

## Reference

3GPP TS 25.331 clause 8.2.6.

8.2.6.8.3 Test purpose

To confirm that the UE transmits <u>a</u>PHYSICAL CHANNEL RECONFIGURATION FAILURE message after the UE completes a <del>cell reselection and cell</del> update procedure.

8.2.6.8.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive1 cell.

UE: PS-DCCH+DTCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

## Test Procedure

#### Table 8.2.6.8

Parameter	Unit	Cell 1		Cell 2	
		<del>T0</del>	<del>T1</del>	<del>T0</del>	<del>T1</del>
UTRA RF		<del>Ch. 1</del>		<del>Ch. 1</del>	
<b>Channel</b>					
Number					
CPICH	dBm	<del>-73</del>	-79	switch	-73
RSCP				ed off	

Table 8.2.6.8 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_DCH state-in cell 1. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.8 and broadcast BCCH on the primary CCPCH in cell 2. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE "Primary CPICH info" and no dedicated physical channel information to invoke the UE to transit from CELL_DCH to CELL_FACH. As the UE cannot detect the specified cell, as the transition occurs from CELL_DCH to CELL_FACH with cell reselection. After the UE successfully camp onto cell 2, it the UE shall initiate the cell update procedure in cell 2. The UE transmits a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

### Expected sequence

Γ	Step	Direction		Message	Comment
	-	UE	SS		
	1	÷		BCCH <u>Void</u>	The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8. The SS starts to broadcast BCCH on the primary CCPCH in cell 2.
	2	<del>\</del>		PHYSICAL CHANNEL RECONFIGURATION	This message include IE "Primary CPICH info".
	3				The SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.8.
	4		$\rightarrow$	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
	5	÷		CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
	6	→ →		UTRAN MOBILITY INFORMATION CONFIRMVoid	
	7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

#### Specific Message Contents

### PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	150

#### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

## CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical same as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## 8.2.6.8.5 Test requirement

After step 3 the UE shall transmit <u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection".

After step 5 UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM-RLC.

After step 6 UE shall transmit <u>a PHYSICAL CHANNEL RECONFIGURATION</u> COMPLETE message on the DCCH using AM_RLC.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

- 8.2.6.9 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success
- 8.2.6.9.1 Definition

## 8.2.6.9.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, which triggers ainvoke UE to transition from CELL_FACH to CELL_DCH and shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6.

## 8.2.6.9.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message-, which invoke UE to transit from CELL FACH to CELL DCH received from the UTRAN, in the case of an assignment of dedicated physical resource from the common physical channels used previously by the UE.

8.2.6.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

#### Test Procedure

The UE is in the CELL_FACH_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to start a transition from CELL_FACH_DCH to CELL_DCH_FACH. The UE shall reconfigure the common new-physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_FACH to CELL_DCH. The UE shall reconfigure the new dedicated physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_FACH to CELL_DCH. The UE shall reconfigure the new dedicated physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

## Expected sequence

Step	Direction	Message	Comment
•	UE SS		
<u>1</u>	£	PHYSICAL CHANNEL RECONFIGURATION	<u>IE "Uplink DPCH Info" and IE</u> <u>"Downlink DPCH Info" are not</u> <u>specified.</u>
<u>2</u>			UE shall perform the reconfiguration.
<u>3</u>	<u></u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
-1 <u>4</u>	÷	PHYSICAL CHANNEL RECONFIGURATION	
<u>25</u>			The UE shall reconfigure the <u>allocated dedicated</u> -physical channels-in order to start using the dedicated channels <del>allocated</del> .
<del>3</del> 6	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

## Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL FACH" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## 8.2.6.9.5 Test requirement

After step <u>3-2</u> the UE shall transit from CELL_FACH to CELL_DCH and transmit a PHYSICAL CHANNEL <u>RECONFIGURATION message on the common physical channel</u> continue to communicate with SS on the dedicated physical channel.

After step 5 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION message on the new dedicated physical channel.

# 8.2.6.10 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported configuration)

8.2.6.10.1 Definition

## 8.2.6.10.2 Conformance requirement

The UE shall keep its old configuration when the it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies unsupported configuration parameters unsupported for by the UE. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the cause "configuration unsupported" in IE " failure cause".

## Reference

3GPP TS 25.331 clause 8.2.6

## 8.2.6.10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.10.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

#### Test Procedure

The UE is in the-CELL_FACH-DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL DCH to CELL FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported frequencies frequency for the UE. The PHYSICAL CHANNEL RECONFIGURATION is structured in such a manner as to trigger a transition from CELL_FACH to CELL_DCH in the UE. The UE shall responds withtransmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message sent-on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause".

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
<u>1</u>	1		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
<u>2</u>				UE shall perform the reconfiguration
<u>3</u>	_	<u>}</u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4 <u>4</u>	*	<u>-</u>	PHYSICAL CHANNEL RECONFIGURATION	Includes unsupported frequencies for the UE
<u>25</u> →		<b>&gt;</b>	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel configuration, this message shall be sent using the <u>old configuration</u> eriginal allocated physical resource.

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION (Step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink_(Nu)	<u>639840</u>
- UARFCN downlink (Nd)	Not Present <u>950</u>

## PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark	
Message Type		
Failure cause	Configuration unsupported	
Other information element	Not checked	

#### 8.2.6.10.5 Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step <u>1-4</u> the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, the IE "failure cause" shall be set to "configuration unsupported".

- 8.2.6.11 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and <u>successful</u> reversion to old configuration)
- 8.2.6.11.1 Definition

#### 8.2.6.11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by before timer T312 expiryexpires and detects the same serving cell only. It shall report the failure by transmitting a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "physical channel failure" in IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.6.

## 8.2.6.11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message by before the T312 expiry.

8.2.6.11.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH_FACH-DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the-CELL_FACH_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common_physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, requesting it to invoke the UE to transit from CELL_FACH to CELL_DCH-due to a switch in physical resource reallocation. However, the SS keeps its current physical channel configuration and then the UE cannot synchronise with the SS. it does not reconfigure the new physical channel accordingly but continue to use the old configuration. Consequently, the UE shall fail to reconfigure the new physical channel, and after After T312 expiry expires, the UE attempt to revert to the old configuration. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set reports "physical channel failure" in IE "failure cause".

## Expected sequence

Step	Direction		Message	Comment
	UE	SS		
<u>1</u>	<u> </u>	<u>,</u>	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
<u>2</u>				UE shall perform the reconfiguration
<u>3</u>	_	<u>}</u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
-1 <u>4</u>	•		PHYSICAL CHANNEL RECONFIGURATION	
<del>2</del> 5				The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
<del>3</del> 6	_	> -	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry expires the UE reverts to the old configuration and transmits this message.

## Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION FAILURE

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

## 8.2.6.11.5 Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step <u>2-5</u> the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "physical channel failure" in IE "failure cause".

# 8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.12.1 Definition

## 8.2.6.12.2 Conformance requirement

The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure in the physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE transmit<u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set <u>IE "failure cause"</u> to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

#### 8.2.6.12.3 Test purpose

To confirm that the UE initiates a cell update procedure after it fails to reconfigure the new physical channel and selects another cell.-

To confirm that UE transmits <u>a</u>PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes cell update procedure.

#### 8.2.6.12.4 Method of test

#### Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF		Ch. 1		Ch. 1	
Channel					
Number					
CPICH	dBm <mark>/</mark>	- <del>73<u>60</u></del>	- <del>79</del> 75	switch	- <del>73<u>60</u></del>
RSCPEc	<mark>3.84</mark>			ed off-	
	MHz			<u>75</u>	

Table 8.2.6.12 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH DCH state in cell 1. The SS transmits a PHYSICAL CHANNEL

RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but the SS does not reconfigure L1 accordingly. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.12. As a result, the UE fails to synchronise on the reconfigure new physical channel before timer T312 expires and reselect to-cell 2 and then the UE shall transmit sends-a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "radio link failureCell reselection". The SS shall transmit a CELL UPDATE CONFIRM message on downlink CCCH after receiving a CELL UPDATE message. The UE transmits a UTRAN MOBILITY INFORMATION

CONFIRM message on the uplink DCCH using AM RLC and subsequently transmits PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure".

## Expected sequence

Step	Direction	Message	Comment
	UE SS		
<u>1</u>	<u>↓</u>	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
<u>2</u>			UE shall perform the reconfiguration
<u>3</u>	<u></u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
-1 <u>4</u>	÷	PHYSICAL CHANNEL RECONFIGURATION	
<u>25</u>			The SS does not configure the new dedicated physical channel in accordance with the settings in the message and applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.2.6.12.
3 <u>6</u>	+	BCCH <u>Void</u>	The SS starts to transmit the BCCH on the primary CCPCH in cell 2.
4 <u>7</u>	$\rightarrow$	CELL UPDATE	This message includes the value "cell reselection " set in IE "Cell update cause".
<del>5</del> 8	÷	CELL UPDATE CONFIRM	This message includes IE "new U-RNTI" and IE "new C-RNTI"".
<u>69</u>	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRMVoid	UE shall send this message in the cell 2.
7 <u>10</u>	$\rightarrow$	PHYSICAL CHANNEL RECONGURATION FAILURE	UE shall transmit this message in the cell 2.

## Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION (Step 14)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

## CELL UPDATE (Step 47)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

## CELL UPDATE CONFIRM (Step 58)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A.</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 4
New U-RNTI	
- SRNC Identity	<u>'0000 0000 0000 0001'</u>
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## PHYSICAL CHANNEL RECONGURATION FAILURE (Step 710)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	"PHYSICAL CHANNEL RECONGURATION FAILURE"
Failure cause	"physical channel failure"
Other information element	Not checked

## 8.2.6.12.5 Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step <u>3-6</u> the UE shall transmit a CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 6 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step <u>7-9</u> the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the IE "failure cause" to "physical channel failure".

# 8.2.6.13 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.13.1 Definition

## 8.2.6.13.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message during a reconfiguring procedure due to a radio bearer message other than a PHYSICAL CHANNEL RECONFIGURATION message, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC.

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst reconfiguring due to a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11

## 8.2.6.13.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message whilst during a reconfiguring procedure due to a radio bearer message other than a PHYSICAL CHANNEL RECONFIGURATION, it shall keep its configuration as if the PHYSICAL CHANNEL RECONFIGURATION message had not been received and complete the reconfiguration procedure according to the previously received message.

8.2.6.13.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL DCH to CELL FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message expires. When the UE receives the PHYSICAL CHANNEL RECONFIGURATION message, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the <u>UE transmits SS receives</u> the PHYSICAL CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters <u>upon the activation time</u> and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC.

## Expected sequence

Step	Direction	Message	Comment
	UE SS		
<u>1</u>	<u>←</u>	PHYSICAL CHANNEL	IE "Uplink DPCH Info" and IE
		RECONFIGURATION	"Downlink DPCH Info" are not
			specified.
<u>2</u>			UE shall perform the
			reconfiguration
<u>3</u>	$\rightarrow$	PHYSICAL CHANNEL	The UE enters CELL FACH
		RECONFIGURATION COMPLETE	state.
<u> 14</u>	÷	RADIO BEARER RECONFIGURATION	
<del>2</del> 5	÷	PHYSICAL CHANNEL	Sent before the elapse of the
		RECONFIGURATION	frame number specified in IE
			"Activation time info" of the
			message dispatched in step <u>14</u> .
<del>3</del> 6	$\rightarrow$	PHYSICAL CHANNEL	The UE does not change the
		RECONFIGURATION FAILURE	configuration due to the reception
			of PHYSICAL CHANNEL
			RECONFIGURATION message.
4 <u>7</u>	$\rightarrow$	RADIO BEARER RECONFIGURATION	This message is on DCCH using
		COMPLETE	AM RLC.

## •

## Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A.

## RADIO BEARER RECONFIGURATION (Step 14)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	<u>1</u>

## PHYSICAL CHANNEL RECONFIGURATION (Step 25)

÷

For PHYSICAL CHANNEL RECONFIGURATION in step 25, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8 ]Not Present
Uplink DPCH info	
<ul> <li>Scrambling code number</li> </ul>	2

## PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 36)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

## 8.2.6.13.5 Test requirement

After step 2 the UE shall transit from CELL DCH to CELL FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step 1, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message before the expiry of the activation time specified in the message of step 1.

After step 2-5 the UE shall keep its configuration as if the UE had not received the PHYSICAL CHANNEL RECONFIGURATION message and shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "Incompatible simultaneous reconfiguration".

After step 4-<u>6</u> the UE <u>shall transmit a</u> communicates with the SS on the DCCH and DTCH using the new physical channel parameters reconfigured as a result of the RADIO BEARER RECONFIGURATION <u>COMPLETE</u> message <u>on</u> the DCCH using AM RLC.

# 8.2.6.14 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception and Invalid configuration)

8.2.6.14.1 Definition

## 8.2.6.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives an invalid PHYSICAL CHANNEL RECONFIGURATION message which does not includes any IEs except IE "Message Type" containing a undefined value in the mandatory IE "UTRAN DRX cycle length coefficient". It shall then transmit a PHYSICAL CHANNEL

RECONFIGURATION FAILURE message, set "protocol error" in IE "failure cause" and also set "<u>ASN.1 violation or encoding error Information element value not comprehended</u>" in IE "Protocol error cause". The UE shall keep existing configuration before upon reception of a <u>PHYSICAL TRANSPORT</u> CHANNEL RECONFIGURATION message, which when the TRANSPORT CHANNEL RECONFIGURATION message-includes some IEs which are set to give an invalid value configuration, and then the UE shall transmit <u>PHYSICAL TRANSPORT</u> CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration"

## Reference

3GPP TS 25.331 clause 8.2.6

## 8.2.6.14.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received message <u>does not include any IEs except IE "Message Type"</u>uses an undefined value in the mandatory IE "UTRAN DRX cycle length coefficient".

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message including some IEs <u>which are</u> set to <u>give an</u> invalid <u>value</u>configuration.

8.2.6.14.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

## Test Procedure

The UE is in the CELL_FACH_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_DCH to CELL_FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE which does not include any IEs except IE "Message Type" comprises a defined value in the mandatory IE "UTRAN DRX cycle length coefficient". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also setting "ASN.1 violation or encoding error Information element value not comprehended" in IE "Protocol error cause". The UE keeps initial configuration and so setting some IEs which are set to give an invalid value_configuration. The UE keeps current configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid value_configuration. The UE keeps current configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration.

#### Expected sequence

Ston	Direction		Message	Comment
Otep	UE	SS	message	Comment
<u>1</u>	£		PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
<u>3</u>	11	<u>&gt;</u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL FACH state.
-1 <u>4</u>	÷	-	PHYSICAL CHANNEL RECONFIGURATION	See <u>specific</u> message content.
<del>2</del> 5		<b>&gt;</b>	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
<del>3</del> 6	÷	_	PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which are set to give an invalid valueconfiguration.
4 <u>7</u>				The UE does not change the configuration
<del>5</del> 8	$\rightarrow$		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL FACH from CELL DCH in PS" in Annex A.

## PHYSICAL CHANNEL RECONFIGURATION (Step 14)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range value.Not Present

## PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 25)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	ASN.1 violation or encoding errorInformation element
	value not comprehended
Other information element	Not checked

## PHYSICAL CHANNEL RECONFIGURATION (Step 36)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
<ul> <li>Default DPCH Offset Value</li> </ul>	512
- DPCH frame offset	<u>1024</u>
Uplink DPCH info	Not present

## PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 57)

The contents of PHYSICAL CHANNEL RECONFIGURATION FAILURE message in this test case is the same as the PHYSICAL CHANNEL RECONFIGURATION FAILURE message as found in Annex A, with the following exceptions:

Information Element	Value/remark
Message Type	
Failure cause	Invalid configuration
Other information element	Not checked

#### 8.2.6.14.5 Test requirement

After step 2 the UE shall transit from CELL DCH to CELL FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step <u>1-4</u> the UE shall keep its old configuration, transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with "protocol error" in IE "failure cause" and also "<u>ASN.1 violation</u> or encoding error Information element value not comprehended" in IE "Protocol error cause".

After step 3 the UE shall keep its old configuration.

After step 4-<u>7</u> the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to " invalid configuration".

# 8.2.6.15 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH (Hard handover to another frequency): Success

8.2.6.15.1 Definition

## 8.2.6.15.2 Conformance requirement

The UE shall correctly reconfigure a <u>common physical channel in another cell</u> according to a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_FACH in a current cell to CELL_FACH in the specified another cell.when asked to perform a transition from CELL_FACH to CELL_FACH.

#### Reference

3GPP TS 25.331 clause 8.2.6

#### 8.2.6.15.3 Test purpose

To confirm that the UE reconfigures a new <u>common physical channel in another cell</u> according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

#### 8.2.6.15.4 Method of test

Initial Condition

System Simulator: <u>1-2</u> cell<u>s – Cell 1 and 2 are active.</u>

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

## Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
CPICH Ec	dBm <mark>/</mark> 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

## Table 8.2.6.15

Table 8.2.6.15 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from columns "T0" to "T1", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 2.

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_FACH in the current cell to CELL_FACH in cell 2, to the UE. The SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.6.15. The UE shall move to cell 2 and configure the common physical channel and then reconfigure the new physical channel according to this message and the system information messages. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACHDCCH.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	÷		PHYSICAL CHANNEL RECONFIGURATION	
2				The SS applies the downlink transmission power settings, according to the values in columns "T1" of table 8.2.6.15.Reconfiguration of physical channel
3	3 →		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A<u>with the following exceptions</u>.

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150

#### 8.2.6.15.5 Test requirement

After step <u>3-2</u> the UE shall <u>tranmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message in cell 2be</u> in CELL_FACH state and continue to communicate with SS on the common physical channel.

# 8.2.6.16 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: (Cell re-selection)

8.2.6.16.1 Definition

## 8.2.6.16.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE performs cell reselection during a physical channel reconfiguration procedure. After the UE completes cell update procedure, the UE shall continue to perform the physical channel reconfiguration procedure and correctly reconfigure the physical channel.

#### Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.16.3 Test purpose

To confirm that the UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message after the UE completes a <u>cell reselection and</u> cell update procedure <u>indicated by a PHYSICAL CHANNEL RECONFIGURATION</u> <u>message</u>.

8.2.6.16.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active, Cell 2 is inactive.

UE: PS-DCCH+DTCH_FACH (state 6-11) as specified in clause 7.4 of TS 34.108

## **Test Procedure**

Table 8	3.2.6.16
---------	----------

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH <del>RSCP<u>Ec</u></del>	dBm <mark>/</mark> 3.84 MHz	- <del>73<u>60</u></del>	- <del>79<u>75</u></del>	<del>switch</del> <del>ed off<u>-</u> 75</del>	- <del>73<u>60</u></del>

Table 8.2.6.16 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. SS switches the power settings from between columns "T0" to and "T1", whenever the description in multi-cell condition specifies a reverse in the transmission power settings for cell 1 and cell 2.

The UE is in the-CELL_FACH state in cell 1. On transmitting a PHYSICAL CHANNEL RECONFIGURATION message, which does not include the IE"Primary CPICH info", the SS configures its downlink transmission power settings according to columns "T1" in Table 8.2.1<u>6</u>.9<u>16</u>and broadcast BCCH on the primary CCPCH in cell 2. The UE shall initiate the cell update procedure and transmits <u>a</u> CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2. The SS shall transmit <u>a</u> CELL UPDATE CONFIRM message on downlink CCCH after receiving CELL UPDATE message. The UE transmit<u>s a</u> UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Step	Direction	Message	Comment
-	UE SS	_	
1	÷	PHYSICAL CHANNEL RECONFIGURATION	This message <u>does not</u> include IE "Primary CPICH info".
2			The UE shall detect a failure to transmission power settings, according to the values in columns "T1" of Table 8.2.6.16.
3	<del>\</del>	BCCH <u>Void</u>	The SS starts to broadcast BCCH on the primary CCPCH in cell2.
4	$\rightarrow$	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
5	÷	CELL UPDATE CONFIRM	This message include IE "new U-RNTI" and IE "new C-RNTI".
6	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	
7	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

#### Specific Message Contents

#### PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	Not Present150

### CELL UPDATE (Step 4)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex <u>A</u> with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Assigned previously in cell 1
- S-RNTI	Assigned previously in cell 1
Cell Update Cause	"cell reselection"

## CELL UPDATE CONFIRM (Step 5)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in Annex <u>A</u>. with the following exceptions:

Information Element	Value/remark
U-RNTI	Same as CELL UPDATE message in step 74
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	Different from previous S-RNTI
New C-RNTI	Different from previous C-RNTI

## 8.2.6.16.5 Test requirement

After step 3 the UE shall transmit<u>a</u> CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

After step 5 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6 the UE shall transmit <u>a PHYSICAL CHANNEL RECONFIGURATION</u> COMPLETE message on the DCCH using AM RLC.

After step 7 the UE communicate with the SS on the DCCH and DTCH, using the common physical channel.

- 8.2.6.17 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover code modification to another frequency): Success (Subsequently received)
- 8.2.6.17.1 Definition

## 8.2.6.17.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

#### 8.2.6.17.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.17.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the <u>activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message</u> <u>elapsesUE reconfigures the radio bearer</u>, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

#### Expected sequence

Stor	Direction		Maccago	Commont
Step	Direction		wessage	Comment
	UE	SS		
1		-	PHYSICAL CHANNEL	The "Secondary scrambling code
			RECONFIGURATION	is set to "1"
<del>1a</del>				The SS set its Downlink DPCH
				scrambling code to "1".
2	€	-	PHYSICAL CHANNEL	SS send this message before the
			RECONFIGURATION	expiry of "activation time"
				specified in PHYSICAL
				CHANNEL RECONFIGURATION
				message of step 1. The IE
				"Secondary scrambling code" is
				set to "2".
3	-	<b>&gt;</b>	PHYSICAL CHANNEL	The UE ignores the PHYSICAL
			RECONFIGURATION COMPLETE	CHANNEL RECONFIGURATION
				message in step 2 and confirms
				configuration according to the
				PHYSICAL CHANNEL
				RECONFIGURATION message in
				step 1.

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step_1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title <u>as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS"</u> <u>as found in Annex A with the following exceptions:</u>

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256
<u>- Uplink DPCH info</u>	
<ul> <li>Secondary scrambling code</li> </ul>	<u>  1</u>

## PHYSICAL CHANNEL RECONFIGURATION (Step_2)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title <u>as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PSPacket to CELL_DCH from CELL_DCH in PS"</u> <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time	Not Present
<ul> <li>Uplink DPCH infoDL channelisation code</li> </ul>	
<ul> <li>Secondary scrambling code</li> </ul>	2

## 8.2.6.17.5 Test requirement

After step <u>3-2</u> the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

- 8.2.6.18 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)
- 8.2.6.18.1 Definition

## 8.2.6.18.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION message on the DCCH using AM RLC.

#### Reference

3GPP TS 25.331 clause 8.2.6, clause 8.6.3.11.

## 8.2.6.18.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.18.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH_DCH (state 6-1110) as specified in clause 7.4 of TS 34.108

#### Test Procedure

The UE is in the-CELL_FACH-DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL DCH to CELL FACH. The UE shall reconfigure the common physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message and reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION message on the DCCH using AM RLC.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1	<u>←</u>	PHYSICAL CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
<u>2</u>			UE shall perform the reconfiguration
<u>3</u>	<u></u>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL FACH state.
-1 <u>4</u>	÷	PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1"
<del>1a</del>			The SS set its Downlink DPCH scrambling code to "1".
<u>25</u>	÷	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 4 <u>4</u> . The IE "Secondary scrambling code" is set to "2".
3 <u>6</u>	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2-5 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 14.

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION(Step 1)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step_14)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" <u>as</u> found in Annex A with the following exceptions:

Information Element	Value/remark			
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8 ]]MOD 256			
<u>- Uplink DPCH info</u>				
<ul> <li>Secondary scrambling code</li> </ul>	<u>1</u>			

## PHYSICAL CHANNEL RECONFIGURATION (Step 25)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark		
Activation Time	Not Present		
<ul> <li>Uplink DPCH infoDL channelisation code</li> </ul>			
- Secondary scrambling code	* <u>2</u>		

## 8.2.6.18.5 Test requirement

After step 2 the UE shall transit from CELL_DCH to CELL_FACH and transmit a PHYSICAL CHANNEL RECONFIGURATION message on the common physical channel.

After step 3-5 the UE shall transmit a communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLCin step 1.

## 8.2.6.19 Physical Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.6.19.1 Definition

## 8.2.6.19.2 Conformance requirement

The UE shall transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message <u>using after it and</u> transits from <u>CELL_DCH</u> to <u>CELL_PCH</u> when receives a PHYSICAL CHANNEL RECONFIGURATION message which invokes the UE to transit from <u>CELL DCH</u> to <u>CELL PCH</u>. And then, the UE shall <u>enter CELL PCH</u> state reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2<u>6</u>

#### 8.2.6.19.3 Test purpose

To confirm that the UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message <u>before and</u> enter<del>ing</del> CELL_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to CELL_PCH and reconfigured its radio bearers. The UE is in CELL_PCH state in the same cell.

8.2.6.19.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH_(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to CELL_PCH. The UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response" accepts it and enters the CELL_FACH state.

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#### Expected sequence

Step	Direction Message		Comment		
	UE SS				
1	<del>~</del>	PHYSICAL CHANNEL			
		RECONFIGURATION			
2	$\rightarrow$	PHYSICAL CHANNEL	The UE sends this message		
		RECONFIGURATION COMPLETE	before start state transition.		
3			The UE is in CELL_PCH		
			state.Reconfiguration of Physical		
			Channel after state transition.		
4	←	PAGING TYPE 1	The SS transmits this message		
			included with a matched identity.		
5	$\rightarrow$	CELL UPDATE	The UE is in CELL_FACH state.		

#### Specific Message Contents

#### PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

#### PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (<u>SMS-Packet in PS</u>)" in <u>default message content of TS 34.108</u> <u>Annex A-</u>with following exceptions:

Information Element	Value/remark		
Paging record list			
Paging record			
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity		
- U-RNTI			
- SRNC Identity	Previously assigned SRNC identity		
- S-RNTI	Previously assigned S-RNTI		

#### 8.2.6.19.5 Test requirement

After step 1 the UE <u>shall</u> transmits <u>a PHYSICAL</u> CHANNEL RECONFIGURATION COMPLETE message to the UE on <u>uplink the</u> DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

## 8.2.6.20 Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.6.20.1 Definition

#### 8.2.6.20.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message <u>after itusing and transits</u> from <u>CELL_DCH to URA_PCH when</u> receives a PHYSICAL CHANNEL RECONFIGURATION message, <u>which</u> invokes the UE to transit from CELL_DCH to URA_PCH. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message and enter URA_PCH state.

## Reference

3GPP TS 25.331 clause 8.2.2<u>6</u>

#### 8.2.6.20.3 Test purpose

To confirm that the UE transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message <u>before and</u> enter<del>ing</del> URA_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message, <u>which invokes</u> the UE to transit from CELL DCH to URA PCH and reconfigured its radio bearers. The UE is in CELL_PCH state.

8.2.6.20.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH_(state 6-10) as specified in clause 7.4 of TS 34.108

#### Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL DCH to URA PCH. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE-using AM RLC and enters into-URA_PCH state. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL_FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response".accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE SS			
1	•	÷	PHYSICAL CHANNEL	
			RECONFIGURATION	
2	$\rightarrow$		PHYSICAL CHANNEL	The UE sends this message
			RECONFIGURATION COMPLETE	before start state transition.
3				The UE is in URA_PCH
				state.Reconfiguration of Physical
				Channel after state transition.
4	← PA		PAGING TYPE 1	The SS transmits this message
				included with a matched identity.
5	$\rightarrow$		CELL UPDATE	The UE is in CELL_FACH state.

#### Specific Message Contents

## PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
Downlink information for each radio link	
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>

## PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (SMS in PS)" in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

#### 8.2.6.20.5 Test requirement

After step 1 the UE <u>shall</u> transmits <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on <u>uplink-the</u> DCCH using AM RLC.

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

- 8.2.6.21 Void
- 8.2.6.22 Void

## 8.2.7 Physical Shared Channel Allocation [TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

## 8.2.8 PUSCH capacity request [TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

- 8.2.9 Void
- 8.3 RRC connection mobility procedure
- 8.3.1 Cell Update
- 8.3.1.1 Cell Update: cell reselection in CELL_FACH
- 8.3.1.1.1 Definition
- 8.3.1.1.2 Conformance requirement

This procedure is used to update UTRAN with the current cell of the UE after it has performed a cell reselection in CELL_FACH state.

#### Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.1.1.3 Test purpose

To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

#### 8.3.1.1.4 Method of test

#### Initial Condition

System Simulator: 2 cells - Cell 1 is and 2 are active., with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1 1, while cell 2 is inactive

UE: CS CELL_FACH_Initial (state 6 2) or PS-CELLDCCH+DTCH_FACH_Initial (state 6-4<u>11</u>) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

#### **Test Procedure**

#### Table 8.3.1.1-1

Parameter	Unit	Cell 1			Cell 2		
		T0	T1	<del>T2</del>	T0	T1	<del>T2</del>
UTRA RF Channel Number			Ch. 1		Ch. 1		
CPICH <del>RSCP<u>Ec</u></del>	dBm <mark>/3.84MHz</mark>	- <del>73<u>60</u></del>	- <del>79</del> 75	-73	Cell 2 is switched off <u>-75</u>	- <del>73<u>60</u></del>	<del>-79</del>

Table 8.3.1.1-i illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions, while columns marked "T1" and "T2" are to be applied subsequently. SS switches the power settings repeatedly between columns "T1" and "T2<u>T0</u>", whenever the description below specifies that the transmission power settings for cell 1 and cell 2 arebe reversed.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1.-1. SS starts to broadcast BCCH on the primary CCPCH in cell 2.- The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection. After the completion of cell reselection, the UE shall transmits a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_FACH", to the UE on the downlink DCCH. SS verifies that the UE does not send any response to this message. UE shall stay in CELL_FACH state. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1.SS then reverses the transmission power of cell 1 and cell 2. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with CELL UPDATE CONFIRM message and allocates new C-RNTI and U-RNTI identities to the UE. The IE "RRC State Indicator" is set to "CELL_FACH" in this message. The UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. Following this, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1.SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall initiate a cell update procedure by transmitting a CELL UPDATE message and stating the cause as 'cell re-selection'. SS replies with a CELL UPDATE CONFIRM message which contains IE "Physical channel information elements". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the change in physical resources. Then, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1.SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains IE "Transport channel information elements". The UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message. Following this, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1. SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS replies with a CELL UPDATE CONFIRM message which contains IE "RB information to be affected list". The UE shall send RADIO BEARER RECONFIGURATION COMPLETE message. Then, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.1SS reverses the transmission power settings for cell 1 and cell 2 once again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains IE "RB information to release list". The UE shall send RADIO BEARER RELEASE COMPLETE message. Finally, SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1the SS reverses the transmission power settings for cell 1 and cell 2. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS shall not respond to this message but SS configures its downlink transmission power settings according to columns "TO" in Table 8.3.1.1 reverses the transmission power settings for cell 1 and cell 2. UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS shall then send CELL UPDATE CONFIRM message to UE.

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH
				state in cell 1
2		-	BCCHVoid	SS applies the downlink
				transmission power settings,
				according to the values in
				columns "11" of Table
				8.3.1.1 <u>-1. The SS starts to</u>
				broadcast BCCH on the
				primary CCPCH in cell 2 with
				a power level that is higher
				than that in cell 1. The UE
				shall find that the cell 2 is
				better for service and perform
				a reselection. SS waits for the
				maximum duration required for
	ļ.,			the UE to camp to cell 2.
3	7	•	CELL UPDATE	Value "cell reselection" shall
				be indicated in IE "Cell update
4	←	-	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set
				to "CELL_FACH". SS set k=0.
5				SS checks the uplink PRACH
				channel to verify that no
				response is sent by UE.
6				SS reverses the transmission
				power level of cell 1 and cell 2.

#### Expected sequence

7	$\rightarrow$	CELL UPDATE	
8	÷	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH". If $k \ge 0$ , new C-RNTI and U-RNTI identities are assigned to the UE. If $k>0$ , IE "Physical channel information elements" is included in this message. If k>1, IE "Transport channel information elements" is included in this message. If k>2, IE "RB information to be affected list" is included in this message. If $k>53$ , IE "RB information to release list" is included in this message. Increment k by 1.
9	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	If k=1 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
10	<i>→</i>	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	If k=2 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
11	$\rightarrow$	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	If k=3 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
12	$\rightarrow$	RADIO BEARER RECONFIGURATION COMPLETE	If k=4 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
13	→	RADIO BEARER RELEASE COMPLETE	If k=5 when SS received this message, proceed to next steptest-ends. Else test fails. If this message is not received, test fails.
14			SS reverses the transmission
15	$\rightarrow$	CELL UPDATE	
16	-		SS reverses the transmission power level of cell 1 and cell 2.
17	$\rightarrow$	CELL UPDATE	
18	÷	CELL UPDATE CONFIRM	

## Specific Message Contents

CELL UPDATE (Step 3, 7, 15 and 17)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' In step 3, check to see if set to '0000 0000 0000 0000 0001'. In step 7 and when k<1, check to see if set to '0000 0000 0000 0000 0001'. In step 7 and when k>0, check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 8. In step 15 and 17, check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 8.
Cell Update Cause	Check to see if set to 'Cell Re-selection'

## CELL UPDATE CONFIRM (Step 4 and 18)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark	
RRC State Indicator	CELL_FACH	

#### CELL UPDATE CONFIRM (Step 8 and k = 0)

Use the same message sub-type found in step 4, with the following exceptions:

Information Element	Value/remark	
New U-RNTI		
- SRNC Identity	'0000 0000 0001'	
- S-RNTI	An arbitrary 20-bits string which is different from original	
	S-RNTI	
New C-RNTI	An arbitrary 16-bits string which is different from original	
	C-RNTI assigned in RRC connection establishment	
	procedure.	

#### CELL UPDATE CONFIRM (Step 8 and k=1)

Use the same message sub-type found in step 8 and k=0, with the following exceptions:

Information Element	Value/remark	
Maximum allowed uplink TX power	3 dB below the follow value:	
	Minimum of {-33 dBm, maximum uplink power allowed under the UE power class-}	

## CELL UPDATE CONFIRM (Step 8 and k=2)

Use the same message sub-type found in step 8 and k=1, with the following exceptions:

Information Element	Value/remark	
Added or Reconfigured uplink TrCH information	Same as the system information block type 5	
Added or Reconfigured downlink TrCH information	Same as the system information block type 5	
-Transport channel identity	4	
-TFS		
Dynamic Transport format information	(This IE is repeated for TFI number)	
Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set	
	Reference to TS34.108 clause 6.10 Parameter Set	
Semi-static Transport Format information		
Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set	
Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set	
Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set	
Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set	

	cizo
-000	5120

#### Reference to TS34.108 clause 6.10 Parameter Set

#### CELL UPDATE CONFIRM (Step 8 and k=3)

Use the same message sub-type found in step 8 and k=2, with the following exceptions:

Information Element	Value/remark
RB information to be affected reconfigure	(UM DCCH for RRC)
- RB identity	4 <u>20</u>
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Not Present
- RB mapping info	Not Present 4
- RB stop/continue	RACH <u>Stop</u>
- RB mapping info	Not Present
<ul> <li>Information for each multiplexing option</li> </ul>	1
RLC logical channel mapping indicator	Explicit list
Number of uplink RLC logical channels	Reference to TS34.108 clause 6.10 Parameter Set
—- Uplink transport channel type	2
—-UL Transport channel identity	
–- Logical channel identity	1
	FACH
	Not Present
—- MAC logical channel priority	Not Present
—- Downlink RLC logical channel info	4
—- Number of downlink RLC logical channels	
<ul> <li>– Downlink transport channel type</li> </ul>	
- DL DCH Transport channel identity	
Logical channel identity	

#### CELL UPDATE CONFIRM (Step 8 and k=4)

Use the same message sub-type found in step 8 and k=3, with the following exceptions:

Information Element	Value/remark
RB information to release	
-RB identity	4

#### 8.3.1.1.5 Test requirement

After step 2 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 4 the UE shall not transmit any uplink message in response to the CELL UPDATE CONFIRMATION message received in step 4.

After step 6 the UE shall sent <u>a</u> CELL UPDATE message to <u>the</u> cell with stronger transmitting power, in order to indicate that a cell reselection has taken place.

- After step 8, if k=1, the UE shall transmit <u>a</u> UTRAN MOBILITY INFORMATION CONFIRM message to acknowledge that it has started to use the new RNTI identities allocated.
- If k=2, the UE shall transmit <u>a</u> PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new physical channel assigned.
- If k=3, the UE shall transmit <u>a</u> TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the transport channels.
- If k=4, the UE shall transmit <u>a</u> RADIO BEARER RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the radio bearers.

- If k=5, the UE shall transmit <u>a</u> RADIO BEARER RELEASE COMPLETE message to acknowledge that it has release its radio bearers.
- After step 14 the UE shall sent transmit a CELL UPDATE message to the cell with stronger transmitting power, in order to indicate that a cell reselection has taken place.
- After step 16 the UE shall <u>transmit a sent-CELL UPDATE</u> message to <u>the cell</u> with stronger transmitting power, in order to indicate that a cell reselection has taken place.

## 8.3.1.2 Cell Update: cell reselection in CELL_PCH

8.3.1.2.1 Definition

#### 8.3.1.2.2 Conformance requirement

This procedure is to update UTRAN with information of the current cell, after a cell reselection has occurred in CELL_PCH state.

#### Reference

3GPP TS 25.331 clause 8.3.1.

## 8.3.1.2.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE replies with an appropriate uplink message after receiving CELL UPDATE CONFIRM message during the cell update procedure.

8.3.1.2.4 Method of test

**Initial Condition** 

System Simulator: 2 cells – Cell 1 is-and 2 are active. with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1-1, while cell 2 is inactive

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is brought to CELL_PCH state and is camped onto cell 1. The SS starts to broadcast system information on the BCCH on the primary CCPCH in cell 2. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1-4. When the UE detects the presence of cell 2, it moves to CELL_FACH state and transmits a CELL UPDATE message on the uplink CCCH. The value "cell reselection" shall be set in IE " Cell update cause" in CELL UPDATE message. Upon reception of CELL UPDATE message, SS replies with a CELL UPDATE CONFIRM message with the IE "RRC State Indicator" set to "CELL PCH". After receiving this message, the UE returns to CELL_PCH state without transmitting any uplink message. The SS transmits a PAGING TYPE 1 message, causing the UE to enter CELL FACH state and the UE shall transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response". SS shall respond with a CELL UPDATE CONFIRM message. Next, SS reverses the transmission strengths of cell 1 and cell 2 again. This will cause the UE to send CELL UPDATE message on the uplink CCCH of cell 1. SS then sends CELL UPDATE CONFIRM message with the assignment of new C RNTI and U-RNTI identities. The UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message as a response. Following this, SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall initiate a cell update procedure by transmitting a CELL UPDATE message on the uplink CCCH of cell 2 and stating the cause as 'cell re selection'. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the change in physical resources. Then, SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements" and "Transport channel information elements". The UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message. Following this, SS reverses

the transmission power settings for cell 1 and cell 2 again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 2. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements", "Transport channel information elements" and IE "RB information to be affected list". The UE shall send RADIO BEARER RECONFIGURATION COMPLETE message. Finally, SS reverses the transmission power settings for cell 1 and cell 2 once again. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements", "Transport channel information to replies with a CELL UPDATE CONFIRM message which contains "Physical channel information elements", "Transport channel information to reconfigure list" and IE "RB information to release list". The UE shall send RADIO BEARER RELEASE COMPLETE message.

## Expected sequence

Step	Direction UE SS	Message	Comment
1			The UE is brought to
2	*	BCCH <u>Void</u>	The SS starts to broadcast system information message on BCCH on the primary CCPCH from cell 2. <u>SS</u> applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.1. <u>SS reverse the</u> transmission level of cell 2 and cell 1. The UE shall find that the cell 2 is better and attempt to perform a cell reselection.
3	<i>→</i>	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE " Cell update cause" set to "cell reselection"
4	<i>+</i>	CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH". SS set k=0.
5			SS swaps the transmission power of cell 1 and cell 2, making cell 1 the stronger cell. <u>The UE is in CELL_PCH</u> state.
6	<u></u>	CELL UPDATEPAGING TYPE 1	UE move from CELL_PCH to CELL_FACH to transmit this message. <u>The SS transmits</u> thos message with a matched identity.
7	<u>+</u> +	CELL UPDATE <del>CONFIRM</del>	IE "RRC State Indicator" is set to "CELL_PCH". If k ≥ 0, new C-RNTI and U-RNTI identities are assigned to the UE. If k>0, IE "Physical channel information elements" is included in this message. If k>1, IE "Transport channel information elements" is included in this message. If k>2, IE "RB information to be affected list" is included in this message. If k>3, IE "RB information to release list" is included in this message. If crement k by 1. The UE is in CELL FACH state
8	→ <u>←</u>	UTRAN MOBILITY INFORMATION CONFIRMCELL UPDATE CONFIRM	If k=1 when SS received this message, go to step 5. Else test fails. If this message is not received, proceed to next step.
9	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	If k=2 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
<del>10<u>8</u></del>	$\rightarrow$	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	If k=3 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.
11	→	RADIO BEARER RECONFIGURATION COMPLETE	If k=4 when SS received this message, go to step 6. Else test fails. If this message is not received, proceed to next step.

<del>12</del>	$\rightarrow$	RADIO BEARER RELEASE COMPLETE	If k=5 when SS received this
			message, test ends. Else test
			fails. If this message is not
			received, test fails.

Specific Message Contents

CELL UPDATE (Steps 3 and 67)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs: Use the same message sub type found in Annex A, with the following exception.

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' <del>when k&lt;1 or when in step 3. Check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in previous step 7 when k&gt;0.</del>
Cell Update Cause	Check to see if set to 'Cell Re-selection' when in step 3. Check to see if set to "paging response" when in step 7.

#### CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH

### CELL UPDATE CONFIRM (Step 7 and k=0)

Use the same message sub type found in step 4, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	<u>-'0000 0000 0001'</u>
- S-RNTI	An arbitrary 20-bits string which is different from original
	S-RNTI
New C-RNTI	An arbitrary 16-bits string which is different from original
	C-RNTI.

#### CELL UPDATE CONFIRM (Step 7 and k=1)

Use the same message sub type found in step 7 with k=0, with the following exceptions:

Information Element	Value/remark
Maximum allowed uplink TX power	3 dB below the follow value:
	Minimum of { 33 dBm, maximum uplink power allowed
	under the UE power class }

#### CELL UPDATE CONFIRM (Step 7 and k=2)

Use the same message sub type found in step 7 with k=1, with the following exceptions:

Information Element	Value/remark
Added or Reconfigured uplink TrCH information	
-Transport channel identity	4
-TFS	
Dynamic Transport format information	(This IE is repeated for TFI number)
Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
RLC size	Reference to TS34.108 clause 6.10 Parameter Set
Semi-static Transport Format information	
Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
	Reference to TS34.108 clause 6.10 Parameter Set

#### CELL UPDATE CONFIRM (Step 7 and k=3)

Use the same message sub-type found in step 7 with k=2, with the following exceptions:

Information Element	Value/remark
RB information to be affected	(UM DCCH for RRC)
	1
——- RLC logical channel mapping indicator	Not Present
-Number of uplink RLC logical channels	1
	RACH
	Not Present
	1
	Explicit
	Reference to TS34.108 clause 6.10 Parameter Set
	2
	1
Downlink transport channel type	FACH
——- DL DCH Transport channel identity	Not Present
	Not Present
	1

#### CELL UPDATE CONFIRM (Step 7 and k=4)

Use the same message sub-type found in step 7 with k=3, with the following exceptions:

Information Element	Value/remark
RB information to release	
	4

#### 8.3.1.2.5 Test requirement

After step 2 the UE shall reselect to cell 2 and transmit a CELL UPDATE message, containing the IE "Cell update cause" set to "cell reselection".

After step 6 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "paging response".

After step 5 the UE shall reselect to stronger transmitting cell and transmit a CELL UPDATE message, containing the IE "Cell update cause" set to "cell reselection".

After step 7, if k=1, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

If k=2, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.
If k=3, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the transport channels.

If k=4, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message to acknowledge that it has reconfigured the radio bearers.

If k=5, the UE shall transmit RADIO BEARER RELEASE COMPLETE message to acknowledge that it has release its radio bearers.

# 8.3.1.3 Cell Update: periodical cell update in CELL_FACH

8.3.1.3.1 Definition

#### 8.3.1.3.2 Conformance requirement

This procedure is to update UTRAN with the current cell information, after the UE has remained in the service area in the CELL_FACH state for a period exceeding the timer value T305.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.3.3 Test purpose

To confirm that the UE executes a periodical cell update procedure following the expiry of timer T305. To confirm that the UE sends a correct response to the CELL UPDATE CONFIRM message. To confirm that the UE listens to the system information messages and then responds to a change in the setting for timer T305.

8.3.1.3.4 Method of test

Initial Condition

System Simulator: <u>1-2 cells – Cell 1 and 2 are active.</u>

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4)</u> in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

#### Test Procedure

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
CPICH Ec	<u>dBm</u> / 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.3.1.3

#### Table 8.3.1.3 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE is in CELL_FACH state. When the UE detects the expiry of timer T305 according to the settings in system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH with a cause indicating periodical cell updating. SS replies with a CELL UPDATE CONFIRM message, and IE "RRC State Indicator" is set to "CELL_FACH". SS verifies that the UE does not transmit any uplink message. SS then waits for T305 to expire again. The UE shall send another CELL UPDATE Message to report periodic cell updating. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs "new C-RNTI", "new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. Next, the content of the SYSTEM

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INFORMATION BLOCK TYPE 1 is changed to disable periodic cell updatingSS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "infinity", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.3, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM. SS then monitors the uplink CCCH for a period up to the maximum possible value for timer T305 (720minutes) and verifies that no CELL_UPDATE message is received. After this, the SS <u>transmits UTRAN MOBILITY</u> INFORMATION message, which includes IE "T305" set to '5', to UEchanges the timer T305 value to 5 minutes. SS transmits SYSTEM INFORMATION CHANGE INDICATION message to inform UE of the modification of system information. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.3, causing the UE to enter CELL FACH state in cell 1 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection".

#### Expected sequence

Step	Direc	ction	Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS waits until T305 has expired.
2	. I.	<b>&gt;</b>	CELL UPDATE	IE "Cell update cause" shall be set to "periodical cell updating"
3	•	<u>,</u>	CELL UPDATE CONFIRM	No RNTI identities are given. No information on PRACH and S-CCPCH are provided.
4				SS verifies that no uplink message is received from UE. SS waits for another period to allow T305 to expire.
5		<b>&gt;</b>	CELL UPDATE	Set to "periodical cell update" in IE "Cell update cause" upon the expiry of timer T305.
6	•	-	CELL UPDATE CONFIRM	Including IEs "new C-RNTI"-, "new U-RNTI" and IE "RRC State Indicator" is set to "CELL_FACH"
7		>	UTRAN MOBILITY INFORMATION CONFIRM	

<u>8</u>	<u>←</u>	UTRAN MOBILITY INFORMATION	IE "T305" is set to 'infintiy'.
<u>9</u>	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	
<u>10</u>			SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.3
<u>11</u>	$\rightarrow$	<u>CELL UPDATE</u>	IE "Cell update cause" shall be set to "cell reselection".
<u>12</u>	$\leftarrow$	CELL UPDATE CONFIRM	
<u>813</u>	4	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents). It waits for 720 minutes and checks that no CELL UPDATE message is transmitted on uplink PRACH channel.
<u>14</u>	←	UTRAN MOBILITY INFORMATION	IE "T305" is set to '5.
<u>15</u>	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	
9 <u>16</u>	÷	SYSTEM INFORMATION CHANGE INDICATION	SS applies the downlink transmission power settings, according to the values in columns "T0" of Table 8.3.1.3
<del>10<u>17</u></del>	<u> </u>	CELL UPDATEMASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1	IE "Cell update cause" shall be set to "cell reselection".SS modified the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see
<u>1118</u>	<u>+</u> +	CELL UPDATE CONFIRMSYSTEM	
<u>4219</u>	→ →	CELL UPDATE	UE shall transmit this message <del>5 minutes after step 9,</del> with "cell update cause" set to "periodical cell updating" <u>after T305 expires.</u>
<u>1320</u>	÷	CELL UPDATE CONFIRM	

#### Specific Message Contents

CELL UPDATE (Step 2 and 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI	Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'periodical cell updating'

# CELL UPDATE (Step 11 and 17)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
- SRNC Identity - S-RNTI	Check to see if set to same bit string as in IE "S-RNTI"
	in IE "U-RNTI" of the CELL UPDATE CONFIRM
	message sent in step 6.
Cell Update Cause	Check to see if set to "cell reselection"

# CELL UPDATE CONFIRM (Step 3, 12, 18 and 20)

Use the same message sub-type found in Annex A.

# CELL UPDATE CONFIRM (Step 6-and 11)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	Set to '0000 0000 0001'
- SRNC Identity	Set to an arbitrary string different from '0000 0000 0000
- S-RNTI	0000 0001'

# CELL UPDATE (Step 1219)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to same bit string as in IE "S-RNTI"
	in IE "U-RNTI" of the CELL UPDATE CONFIRM
	message sent in step 6.
Cell Update Cause	Check to see if set to 'periodical cell updating'

# MASTER INFORMATION BLOCKUTRAN MOBILITY INFORMATION (Step 8)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
MIB TagNew U-RNTI	2Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
<u>- T305</u>	infinity

UTRAN MOBILITY INFORMATION (Step 14)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
<u>- T305</u>	5

#### SYSTEM INFORMATION BLOCK TYPE 1 (Step 8)

Information Element	Value/remark
UE Timers and constants in connected mode	
<del>T305</del>	Infinity

#### SYSTEM INFORMATION CHANGE INDICATION (Step 9)

Information Element	Value/remark
BCCH modification info	
MIB Value tag	2

#### MASTER INFORMATION BLOCK (Step 9)

Information Element	Value/remark
MIB Tag	4

#### SYSTEM INFORMATION BLOCK TYPE 1 (Step 9)

Information Element	Value/remark
UE Timers and constants in connected mode	
<del>T305</del>	5-minutes

#### SYSTEM INFORMATION CHANGE INDICATION (Step 11)

Information Element	Value/remark
BCCH modification info	
MIB Value tag	4

#### 8.3.1.3.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 and then transmits a CELL UPDATE message setting value "periodical cell update" into IE "Cell update cause".

After step 3 the UE shall not send any uplink message as a response to CELL UPDATE CONFIRM message sent in step 3.

After step 4 the UE shall send <u>a</u> CELL UPDATE message, specifying the cell updating cause to be "periodical cell update".

After step 6 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Between step 8 and step 9 the UE shall cease periodic cell updating activity and not transmit any CELL UPDATE messages.

After step 8, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 10, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

Between step 12 and 14, the UE shall not transmit any CELL UPDATE message.

After step 14, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 16, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 18, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "periodical cell update" on the uplink CCCH.

After step 11the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the UE has re-read the modified system information.

# 8.3.1.4 Cell Update: periodical cell update in CELL_PCH and multiple cell update causes

8.3.1.4.1 Definition

#### 8.3.1.4.2 Conformance requirement

This procedure is to update UTRAN with the information of the current cell when the UE detects that it is still in the service area, while residing in the CELL_PCH state, after the expiry of timer T305.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.4.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the expiry of timer T305. To confirm that the UE sends an appropriate response message after receiving the CELL UPDATE CONFIRM message.

8.3.1.4.4 Method of test

Initial Condition

System Simulator: <u>1-2 cells – Cell 1 and 2 are active.</u>

UE: CELL_PCH (state 6-12) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

# Table 8.3.1.4

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF Channel Number		<u>Ch. 1</u>		<u>Ch. 1</u>	
CPICH Ec	<u>dBm</u> / 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-75</u>	<u>-60</u>

Table 8.3.1.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE starts from CELL_PCH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE moves to CELL FACH state. It shall transmit a CELL UPDATE message on the uplink CCCH and set the value "periodical cell update" into IE "Cell update cause". SS answers with a CELL UPDATE CONFIRM message, with IE "RRC State Indicator" set to "CELL_PCH" and includes the IEs "new C RNTI" and "new URNTI". SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "infinity", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM with IE "RRC state indicator" set to "CELL_PCH". Then UE shall enter CELL_PCH state. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and before entering CELL_PCH state. Next, the content of the SYSTEM INFORMATION BLOCK TYPE 1 is changed to disable periodical cell updating. SS then monitors the uplink CCCH for a period up to the maximum possible value for timer T305 (720minutes) and verifies that no CELL_UPDATE message is received. SS then configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 1 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM. Next, SS transmits UTRAN MOBILITY INFORMATION message, which includes IE "T305" set to "5", to UE. UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.4, causing the UE to enter CELL_FACH state in cell 2 and transmit a CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "cell reselection". Then SS shall transmit CELL UPDATE CONFIRM with IE "RRC state indicator" set to "CELL_PCH". Then UE shall enter CELL_PCH state. After this, the SS changes the timer T305 value to 5 minutes. SS shall inform UE about the change in system information using PAGING TYPE 1. UE shall read the new system information. UE shall resume periodical cell updating procedure and transmit CELL_UPDATE message 5 minutes after UE has re read the modified system information. Next, the SS pages for the UE. UE shall send CELL UPDATE message with IE "cell update cause" set to "paging response". SS shall not respond to this message and wait till UE's timer T305 expires. After T305 expires. UE shall transmit CELL UPDATE message with IE "cell update cause" set to "periodical cell update". SS shall senttransmit-CELL UPDATE CONFIRM message to end the procedure.

Step	Direction	Message	Comment
-	UE SS	_	
1			The UE is in the CELL_PCH state. SS waits until T305 has expired. Wait for CELL UPDATE message and then verify that the time of arrival of this message is in the range of T305 value +/- 10 % after it entered CELL_PCH state
2	<i>→</i>	CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "-Cell update cause" set to "periodical cell update".
3	÷	CELL UPDATE CONFIRM	New C-RNTI and U-RNTI identities are assigned.
4	<u></u>	UTRAN MOBILITY INFORMATION CONFIRM	IE "T305" is set to 'infintiy'.UE moves back to CELL_PCH after transmitting this message.
<u>5</u>	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	
<u>6</u>			SS applies the downlink transmission power settings, according to the values in columns "T1" of Table 8.3.1.4.
<u>7</u>	<u></u> <u>→</u>	CELL UPDATE	The UE shall move to CELL FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection".

#### Expected sequence

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5	Step	Direction	Message	Comment
_	8	<u> </u>		LIE enters CELL PCH state
	<u>o</u>	<u>~</u>	CELL OF DATE CONFIRM	OE efficies CELL_FOIT state
				alter transmitting this
				message.
	<u>59</u>	$\leftarrow$	MASTER INFORMATION BLOCK	SS changes the contents of
			SYSTEM INFORMATION BLOCK TYPE 1	MASTER INFORMATION
				BLOCK and SYSTEM
				INFORMATION BLOCK (see
				specific message contents). It
				waits for 720 minutes and
				checks that no CELL UPDATE
				message is transmitted on
	10			Compliant the downlink
	10			<u>55 applies the downlink</u>
				transmission power settings,
				according to the values in
				columns "T0" of Table 8.3.1.4.
	<u>11</u>	$\rightarrow$	CELL UPDATE	The UE shall move to
				CELL_FACH state and
				transmits this message with
				the IE "Cell update cause" set
				to "cell reselection".
	12	$\leftarrow$	CELL UPDATE CONFIRM	
	-			
_	13	<u> </u>		<u>IE 1305 IS Set to 5.</u>
	14	7	CONFIRM	
	15			SS applies the downlink
				transmission power settings
				according to the values in
				columns "T1" of Table 8.3.1.4
-	16	→		The LIE shall move to
	10	<u> </u>	OLLE OF DATE	CELL EACH state and
				transmits this massage with
				the IE "Coll undete equee" act
				to "coll recolection"
	17	/		UE antere CELL DCH atete
	<u>17</u>	<u> </u>		OE enters CELL_PCH state
				after transmitting this
	-	,		message.
	<del>6</del>	÷	MASTER INFORMATION BLOCK	SS modified the contents of
			SYSTEM INFORMATION BLOCK TYPE 1	MASTER INFORMATION
				BLOCK and SYSTEM
				INFORMATION BLOCK (see
				specific message contents)
				<del>again.</del>
	7	$\leftarrow$	PAGING TYPE 1	Include IE "BCCH modification
				info"
	8	$\rightarrow$	CELL UPDATE	UE shall transmit this
				message 5 minutes after step
				12, with "cell update cause"
				set to "periodical cell updating"
	9	$\leftarrow$	CELL UPDATE CONFIRM	
-	10			SS pages the LIE
-	11	`		IE "Coll undate cause" shall be
				set to "paging response".
1	<u>218</u>			SS wait for T305 timer to
				expire
1	<del>3</del> 19	$\rightarrow$	CELL UPDATE	IE "Cell update cause" shall be
·				set to "periodical cell update".
1	420	$\leftarrow$	CELL UPDATE CONFIRM	
	_		•	

# Specific Message Contents

#### CELL UPDATE (Step 2 and 19)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'periodical cell updating'

#### CELL UPDATE (Step 8 and 13)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1010'
Cell Update Cause	Check to see if set to 'periodical cell updating'

# CELL UPDATE (Step 117, 11 and 16)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1010'0001'
Cell Update Cause	Check to see if set to 'paging response'" cell reselection"

#### CELL UPDATE CONFIRM (Step 9 and 14)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC state indicator	CELL_PCH

#### CELL UPDATE CONFIRM (Step 3, 12 and 20)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to '0000 0000 0001'
- S-RNTI	Set to '0000 0000 0000 0000 1010'
New C-RNTI	Set to '0000 0000 0000 0101'

#### . CELL UPDATE CONFIRM (Step 8 and 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC state indicator	CELL PCH

#### PAGING TYPE 1 (Step 6)

Same as in Annex A, with the following exception:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
- MIB Value tag	2
-BCCH modification time	Not present

#### PAGING TYPE 1 (Step 10)

Information Element	Value/remark
CHOICE Used paging identity	UTRAN identity
— - SRNC Identity	<u>'0000 0000 0001'</u>
	<del>'0000 0000 0000 0000 1010'</del>

#### UTRAN MOBILITY INFORMATION (Step 4 and 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	Not Present
New C-RNTI	Not Present
UE Timers and constants in connected mode	
<u>- T305</u>	Set to 'infinity' in step 4 and '5' in step 13

#### MASTER INFORMATION BLOCK (Step 5)

Information Element	Value/remark
MIB Tag	2

# SYSTEM INFORMATION BLOCK TYPE 1 (Step 5)

Information Element	Value/remark
UE Timers and constants in connected mode	
<del>T305</del>	Infinity

#### MASTER INFORMATION BLOCK (Step 6)

Information Element	Value/remark
MIB Tag	4

#### SYSTEM INFORMATION BLOCK TYPE 1 (Step 6)

Information Element	Value/remark
UE Timers and constants in connected mode	
<del>T305</del>	<del>5 minutes</del>

# 8.3.1.4.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, it shall then move to CELL_FACH state and transmits a CELL UPDATE message with the IE "Cell update cause" set to "periodical cell update".

# After step 4, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 6, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

Between step 11 and step 12 14<u>After step 8 and before step 10</u>, the UE shall cease periodic cell updating activity and not transmit any CELL UPDATE messages.

After step 10, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 13, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

After step 15, the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "cell reselection" on the uplink CCCH.

After step 7 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the UE has re read the modified system information.

After step 10 the UE shall transmit a CELL UPDATE message stating the cell update cause to be paging response.

After step 12-18 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating.

# 8.3.1.5 Cell Update: UL data transmission in URA_PCH

8.3.1.5.1 Definition

# 8.3.1.5.2 Conformance requirement

This procedure is to update UTRAN with the current cell information if the UE wants to transmit uplink data while in URA_PCH state.

# Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.5.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits uplink data if the UE is in URA_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message, after it has taken into consideration the current TFS and/or TFCS settings.

8.3.1.5.4 Method of test

Initial Condition

System Simulator: 1cell

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELLDCCH+DTCH_FACH_Initial (state 6-4<u>11</u>) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

SS sends <u>a</u> MEASUREMENT CONTROL message to <u>trigger</u> UE to measure the CPICH RSCP in a intra frequecny measurement and to report periodically by the MEASUREMENT REPORT message using UM RLC. UE shall send MEASUREMENT REPORT message to SS using <del>AM</del><u>UM</u> RLC on DCCH. <del>SS</del> do not send AM PDU back to UE. SS then transmit <u>a</u> RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "URA_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state. UE shall detect that the periodical timer for measurement reporting has elapsed <u>SS has not acknowledge the last MEASUREMENT</u> REPORT message and attempt to re-transmit <u>a MEASUREMENT REPORT message-it</u>. The UE then moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, with the IE "Cell update cause" set to value "uplink data transmission". After receiving such a message, SS transmits CELL UPDATE

CONFIRM message without specifying IE "new C RNTI" or IE "new U RNTI" or "CN information elements" or " Physical channel information elements" or "Transport channel information elements" or RB information elements". The UE shall stay in CELL_FACH state and transmit MEASUREMENT REPORT message using AM-UM RLC on DCCH. SS shall acknowledge this message and then sends a RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "URA_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state. The UE is triggered to initiate a PS or CS call (depending on CN domain supported by the UE). The UE shall send CELL UPDATE message once more. After the SS receives this message, it replies with a CELL UPDATE CONFIRM message including "Physical channel information elements". The IE "RRC State Indicator" is set to "CELL_FACH" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. Then the UE shall enter CELL_FACH state and proceed with the NAS signalling required for CS or PS connection establishment. Finally, the RRC connection is released.

#### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE is brought to CELL_FACH state.
2	÷	MEASUREMENT CONTROL	
3	<i>→</i>	MEASUREMENT REPORT	SS do not send AM PDU to acknowledge the RLC PDUs carrying this message (abnormal behaviour of SS's RLC entity).
4	÷	RADIO BEARER RELEASE	IE "RRC State Indicator" set to "URA_PCH"
5	$\rightarrow$	RADIO BEARER RELEASE COMPLETE	UE moves to URA_PCH state.
6	$\rightarrow$	CELL UPDATE	The UE shall move to CELL FACH state with the message set to "uplink data transmission" in IE "Cell update cause".
7	÷	CELL UPDATE CONFIRM	Use default message content.
8	$\rightarrow$	MEASUREMENT REPORT	SS shall acknowledge the RLC PDUs carrying this message (normal behaviour).
<del>9</del>	$\leftarrow$	RADIO BEARER RELEASE	IE "RRC State Indicator" set to "URA_PCH"
<del>10</del>	$\rightarrow$	RADIO BEARER RELEASE COMPLETE	UE moves to URA_PCH state.
11			UE is triggered to initiate a PS or CS call.
<del>12</del>	$\rightarrow$	CELL UPDATE	Cell update cause is "uplink data transmission".
<del>13</del>	<del>~</del>	CELL UPDATE CONFIRM	Including "Physical channel information elements".
14	$\rightarrow$	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
<del>15a</del>	$\Leftrightarrow$	Set up prodecure for originating circuit switched calls	Execute P8 followed by P12 as specified in clause 7.4 of TS 34.108.
<del>15b</del>	<del>&lt;-&gt;</del>	Set up prodecure for originating packet switched calls	Execute P10 followed by P14 as specified in clause 7.4 of TS 34.108
<del>16</del>	<del>~</del>	RRC CONNECTION RELEASE	

#### Specific Message Contents

#### MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in Annex A- with the following exceptions:

Information Element	Value/remark
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Unacknowledged mode RLC
<ul> <li>Measurement Reporting/Event Trigger Reporting</li> </ul>	Periodical
Mode	

#### RADIO BEARER RELEASE (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
RB information to release list	
- RB identity	320 or 21 (for radio access bearer)
RB information to be affected list	Not Present
UL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
DL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
CHOICE channel requirement	Not Present
Downlink information per radio link list	Not Present

# CELL UPDATE (Step 6-and 12)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'0001'
Cell Update Cause	Check to see if set to 'uplink data transmission'

#### CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in Annex A.

#### CELL UPDATE CONFIRM (Step 13)

Use the same message sub type found in step 3, with the following exceptions:

Information Element	Value/remark
Maximum allowed uplink TX power	3 dB below the follow value:
	Minimum of { 33 dBm, maximum uplink power allowed
	under the UE power class }

# RADIO BEARER RELEASE (Step 9)

Use the same message sub type found in Annex A, with the following exceptions:

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Information Element	Value/remark
RRC State Indicator	URA_PCH
RB information to release list	
RB identity	4
RB information to be affected list	Not Present
UL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
DL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
CHOICE channel requirement	Not Present
Downlink information per radio link list	Not Present

# MEASUREMENT REPORT (Step 3 and 8)

Only the message type IE in this message will be checked.

#### RADIO BEARER RELEASE COMPLETE (Step 5 and 10)

Only the message type IE in this message will be checked.

#### PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 11)

#### Only the message type IE in this message will be checked.

#### 8.3.1.5.5 Test requirement

After step 2, UE shall transmit <u>a MEASUREMENT REPORT</u> message to SS using <u>AM-UM</u> RLC on DCCH <u>when 64</u> seconds has elapsed since the acknowledgement of <u>MEASUREMENT CONTROL</u> message.

After step 4, UE shall transmit a RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state.

Then <u>After step 5</u>, the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL UPDATE message which is set to "uplink data transmission" in IE "Cell update cause".

After step 7, UE shall transmit MEASUREMENT REPORT message to SS using AM RLC on DCCH.

After step 9, UE shall transmit RADIO BEARER RELEASE COMPLETE message and move to URA_PCH state.

After step 11 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE "Cell update cause" shall be set to "uplink data transmission".

After step 13 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

# 8.3.1.6 Cell Update: UL data transmission in CELL_PCH

8.3.1.6.1 Definition

# 8.3.1.6.2 Conformance requirement

This procedure is to update UTRAN with the current cell of the UE if the UE wants to transmit uplink data when the UE is in CELL_PCH state.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.6.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits uplink data if the UE is in CELL_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message.

8.3.1.6.4 Method of test

Initial Condition

System Simulator: 1_cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CELL_PCH (state 6-12)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

The UE is in the CELL_PCH-FACH state. SS sends a MEASUREMENT CONTROL message to trigger UE to measure the CPICH RSCP in a intra frequeenncy measurement and to report periodically by the MEASUREMENT REPORT message using UM RLC. UE shall send a MEASUREMENT REPORT message to SS using UM RLC on DCCH. SS then transmits a RADIO BEARER RELEASE message with IE "RRC State Indicator" is set to "CELL_PCH". The UE shall reply with RADIO BEARER RELEASE COMPLETE message and move to CELL PCH state. UE shall detect that the periodical timer for measurement reporting has elapsed and attempt to transmit a MEASUREMENT REPORT message. The UE then moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, with the IE "Cell update cause" set to value "uplink data transmission". After receiving such a message, SS transmits a CELL UPDATE CONFIRM message The UE shall stay in CELL FACH state and transmit a MEASUREMENT REPORT message using UM RLC on DCCH. The UE is triggered to initiate a CS or PS call (depending on CN domain supported by the UE). The UE moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, which shall indicate "uplink data transmission" in IE "Cell update cause". SS replies with a CELL UPDATE CONFIRM message which assigns a new C RNTI to the UE. After receiving this message, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message and remains in CELL FACH state. SS and UE complete PS or CS call establishment. Then SS send RRC CONNECTION RELEASE message to end the test.

#### Expected sequence

Step	Direction		Message	Comment	
•	UE	SS			
1				The UE is brought to <u>CELL_FACH state.</u> The UE is in the CELL_PCH state. The UE is triggered to attempt a PS or CS call depending on UE capabilities.	
2	<u> </u>		MEASUREMENT CONTROL		
<u>3</u>	-	<u>}</u>	MEASUREMENT REPORT		
<u>4</u>	<u> </u>		RADIO BEARER RELEASE	IE "RRC State Indicator" set to "CELL_PCH"	
<u>5</u>	-	<u>&gt;</u>	RADIO BEARER RELEASE COMPLETE	UE moves to CELL_PCH state.	
<del>2</del> 6	-	<b>&gt;</b>	CELL UPDATE	The UE moves to CELL FACH state and transmit this message which is set to "uplink data transmission" in IE "Cell update cause".	
3 <u>7</u>	•	<u>,</u>	CELL UPDATE CONFIRM	Use default message content Including the IE "new C-RNTI".	
4 <u>8</u>	-	>	MEASUREMENT REPORTUTRAN MOBILITY INFORMATION CONFIRM		
<del>5a</del>			Set up prodecure for originating circuit switched calls	Execute P8 followed by P12 as specified in clause 7.4 of TS 34.108.	
<del>5b</del>	4	÷	Completion of NAS signalling for PS connection establishment	If PS call has been triggered	
6	¥	<del></del>	RRC CONNECTION RELEASE		

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in Annex A with the following exceptions:

Information Element	Value/remark
Measurement Reporting Mode	
<ul> <li>Measurement Report Transfer Mode</li> </ul>	Unacknowledged mode RLC
<ul> <li>Measurement Reporting/Event Trigger Reporting</li> </ul>	Periodical
Mode	

# RADIO BEARER RELEASE (Step 4)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
RB information to release list	
- RB identity	20 or 21 (for radio access bearer)
RB information to be affected list	Not Present
UL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
DL Transport channel information common for all	Not Present
transport channel	
Deleted TrCH information list	Not Present
Added or Reconfigured UL TrCH information list	Not Present
CHOICE channel requirement	Not Present
Downlink information per radio link list	Not Present

# CELL UPDATE (Step 26)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'0001'
Cell Update Cause	Check to see if set to 'uplink data transmission'

CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in Annex A.

#### CELL UPDATE CONFIRM (Step3)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	<u>'0000 0000 1111 0000'</u>

# UTRAN MOBILITY INFORMATION CONFIRM (Step 4)

Only the message type IE in this message will be checked.

MEASUREMENT REPORT (Step 3 and 8)

Only the message type IE in this message will be checked.

# RADIO BEARER RELEASE COMPLETE (Step 5)

Only the message type IE in this message will be checked.

#### 8.3.1.6.5 Test requirement

After step 1 the UE shall move to CELL_FACH state, initiate a cell update procedure for the UL data transmission, and transmit a CELL UPDATE message which is set to "uplink data transmission" in IE "Cell update cause".

After step 3 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. After step 2, UE shall transmit a MEASUREMENT REPORT message to SS using UM RLC on DCCH when 64 seconds has elapsed since the acknowledgement of MEASUREMENT CONTROL message.

After step 4, UE shall transmit a RADIO BEARER RELEASE COMPLETE message and move to CELL PCH state.

<u>After step 5, the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL</u> <u>UPDATE message which is set to "uplink data transmission" in IE "Cell update cause".</u> After step 7, UE shall transmit a MEASUREMENT REPORT message to SS using UM RLC on DCCH.

8.3.1.7	VOID
8.3.1.8	VOID
8.3.1.9	Cell Update: re-entering of service area after T305 expiry and being out of service area

8.3.1.9.1 Definition

#### 8.3.1.9.2 Conformance requirement

When a UE detects that it's out of service area after experiencing a T305 timer expiry, it shall try to search for a suitable cell to camp on. At the same time, it shall start timer T307. If the UE subsequently re-enters the service area of a cell before T307 expires, it shall perform a cell update procedure.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.9.3 Test purpose

To confirm that the UE performs a cell search after experiencing an "out of service area" condition following the expiry of timer T305. To confirm that the UE initiates cell updating procedure if it manages to re-enter the service area.

8.3.1.9.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

#### Test Procedure

# Table 8.3.1.9

Parameter	<u>Unit</u>	<u>Cell 1</u>	
		<u>T0</u>	<u>T1</u>
<u>UTRA RF</u> <u>Channel</u> <u>Number</u>		<u>Ch</u>	<u>. 1</u>
CPICH Ec	dBm <mark>/3.84MHz</mark>	-60	-80

Table 8.3.1.9 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in the CELL_FACH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 so that S<0. SS decreases the transmission power of cell 1 until the cell selection parameter S<0. Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value, SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9 so that S>0. the SS restores the transmission power of cell 1. The UE shall find that it is back in service area, and transmits a CELL UPDATE message to the SS on the uplink CCCH. In this

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message, the IE "Cell update cause" shall be set to "re-entered service area". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message with the IE "RRC State Indicator" set "CELL_PCH" on the downlink DCCH. The UE shall enter CELL_PCH state. <u>SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 so that S<0.SS decreases the transmission power of cell 1 until the cell selection parameter S<0. Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value, <u>SS configures its downlink transmission power of cell 1</u>. The UE shall find that it is back in service area, move to CELL_FACH and transmits a CELL UPDATE message to the SS on the uplink CCCH. In this message, the IE "Cell update cause" shall be set to "reentered service area". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message on the downlink DCCH.</u>

#### Expected sequence

Step	Direction UE SS	Message	Comment
1			The UE is in the CELL_FACH state of cell 1.
<u>1a</u>	£	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
<u>1b</u>	<u></u>	SYSTEM INFORMATION CHANGE INDICATION	
2			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9 SS decreases the transmission power of cell 4-so that its S value falls below 0.
3			The UE shall detect a "out of service" condition upon expiry of timer T305 and it shall search for other cells to camp on. (T307 timer starts)
4			SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9SS restores cell 1's original power level before
5	$\rightarrow$	CELL UPDATE	T307 timer expires. The value "re-entered service
			area" shall be found in IE "Cell update cause" in this message
6	÷	CELL UPDATE CONFIRM	"RRC State Indicator" is set to "CELL_PCH"
7			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.9SS decreases the transmission power of cell 4 so that its S value falls below 0 and waits until T305 has expired.
8			SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.9SS restores cell 1's original power level before T307 timer expires.
9	→	CELL UPDATE	UE shall move to CELL_FACH. It shall transmit this message with <u>cell update</u> cause set to "re-entered service area"
10	←	CELL UPDATE CONFIRM	

# Specific Message Contents

# MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

# SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

#### SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type BCCH modification info	
MIB Value tag	2

#### CELL UPDATE (Step 5 and 9)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'0001'
Cell Update Cause	Check to see if set to 're-entered service area'

#### CELL UPDATE CONFIRM (Step 6 and 10)

Use the same message sub-type found in Annex A, with the following exception.

Information Element	Value/remark
RRC State Indicator	CELL_PCH

# 8.3.1.9.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message in which the IE "Cell update cause" is set to the value "reentered service area".

After step 8 the UE shall move to CELL_FACH and then transmit a CELL UPDATE message, with the IE "Cell Update Cause" set to "re-entered service area".

# 8.3.1.10 Cell Update: expiry of T307 after T305 expiry and being out of service area

8.3.1.10.1 Definition

#### 8.3.1.10.2 Conformance requirement

This procedure is required to cater for the case of a failure to update UTRAN with the current cell, after the expiry of T307. In this case, the UE shall return to idle mode and perform cell reselection if possible.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.10.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of T307, indicating that it is out of service area when attempting to perform a periodic cell updating procedure.

8.3.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CELL_PCH (state 6-12)</u> as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### Test Procedure

# Table 8.3.1.10

Parameter	<u>Unit</u>	Ce	<u>ll 1</u>
		<u>T0</u>	<u>T1</u>
UTRA RF		Ch	. 1
<u>Channel</u>			
Number			
CPICH Ec	<u>dBm<mark>/3.84MHz</mark></u>	-60	-80

Table 8.3.1.10 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in CELL_PCH-FACH state at the start of the test. Before the expiry of periodic cell updating timer T305, the content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.10 so that S<0. SS starts to decrease the downlink transmission power such that the UE discovers that the cell is no longer suitable for camping and this results in a "out of service area" condition. The SS continues to listen to the uplink channel to detect possible attempts to perform a cell updating procedure. The UE shall not send any CELL UPDATE message on the uplink DCCH, instead it triggers timer T307 and T305. After the expiry of timer T307 and SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.1.10 so that S>0, the UE shall enter idle state. This is confirmed by the SS₅ when it sends a PAGING TYPE 1 message to the UE using its-U-RNTIE identity, and the UE does not shall respond to the pagemessage. SS then attempts to page for the UE again, this time using PAGING TYPE 2 message sent on downlink DCCH. Likewise, the UE shall not respond to this page. Next, SS pages UE to request UE to establish RRC connection. UE shall be brought to CELL_FACH state. Then before the expiry of timer T305, SS decrease downlink transmission power such that cell criteria S <0. Upon the expiry of T305, UE discovers that it is in "out of service area" condition and therefore triggers T307. Upon expiry of T307, UE move to idle state. SS send PAGING TYPE 1 message to UE with IE "CHOICE Used paging identity" set to "UTRAN identity" and the UE shall not respond. Finally, SS pages for UE using PAGING TYPE 2 message sent on downlink DCCH and UE shall not respond. The UE is paged with CN domain identity (TMSI or P TMSI) to verify that it returned to idle mode.

# Expected sequence

Step	Direction UE SS	Message	Comment
1			The UE is brought to CELL_PCH-FACH state.
<u>1a</u>	£	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
<u>1b</u>	<u>←</u>	SYSTEM INFORMATION CHANGE INDICATION	
2			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.10 so that SS starts to decrease the transmission power until the cell is no longer suitable for camping. The UE shall detect that it is out of service area and refrains from transmitting CELL UPDATE message due to periodic cell updating.
3			The UE detects the expiry of timer T305 and it searches for other cells to camp on. After the expiry of timer T307, the UE shall enter idle mode. <u>SS</u> <u>configures its downlink</u> <u>transmission power settings</u> <u>according to columns "T0" in</u> <u>Table 8.3.1.10 so that the cell</u> is suitable for camping.
4	÷	PAGING TYPE 1	SS pages the UE at its assigned paging occasion using the allocated U-RNTIE valueidentity.
5	<u>→</u>	RRC CONNECTION REQUEST	The UE shall <del>not</del> -respond to this page as it has already entered the idle mode. <del>This is</del> verified for 10 s.
e	÷	PAGING TYPE 2	SS pages the UE on the downlink DCCH. The UE shall not respond to this page.
7			The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.
8	$\leftrightarrow$	RRC and NAS signalling	The UE is brought to CS- CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) using P3 or P4 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. In step 1 of P3 or P4, SS pages UE with CN domain identity to verify that it is in Idle Mode

Step	Dire	ction	Message	Comment
	UE	SS		
<del>9</del>				SS starts to decrease the
				transmission power until the
				cell is no longer suitable for
				camping. The UE shall detect
				that it is out of service area
				and refrains from transmitting
				CELL UPDATE message due
				to periodic cell updating.
<del>10</del>				The UE detects the expiry of
				timer T305 and it searches for
				other cells to camp on. After
				the expiry of timer T307, the
				UE shall enter idle mode.
11	-∢	÷	PAGING TYPE 1	SS pages the UE at its
				assigned paging occasion
				using the allocated U-RNTI
				value. The UE shall not
				respond to this page as it has
				already entered the idle mode.
<del>12</del>				The UE shall not respond to
				this page as it has already
				entered the idle mode. This is
				verified for 10 s.
<del>13</del>	→	÷	PAGING TYPE 2	SS pages the UE on the
				downlink DCCH. The UE shall
				not respond to this page.
14				The UE shall not respond to
				this page as it has already
				entered the idle mode. This is
				verified for 10 s.
<del>15</del>	◄	<del>( -</del>	PAGING TYPE 1	Page using TMSI for CS
				domain or P-TMSI for PS
				domain depending on CN
				domain supported by the UE.
- 10				
<del>16</del>	-	>	KRC CONNECTION REQUEST	
17	•	<del>-</del>	RKC CONNECTION REJECT	

# Specific Message Contents

# MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

# SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	-70

# SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type	
BCCH modification info	
MIB Value tag	2

#### PAGING TYPE 1 (Step 4 and 11)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	<u>CN identity</u>
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
<u>- IMSI</u>	Set to the same IMSI value stored in the TEST USIM
	card.
Page record list	
- Paging record	
CHOICE Used paging identity	UTRAN identity
U-RNTI	
	Check to see if set to '0000 0000 0001'
S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'

#### PAGING TYPE 2 (Step 6 and 13)

Information Element	Value/remark
Paging cause	Set to a cause corresponding to one radio access
	bearer services supported by the UE.
CN domain identity	CS-Domain
Paging Record Type Identifier	IMSI

#### 8.3.1.10.5 Test requirement

After step <u>3-4</u> the UE shall <u>transmit a RRC CONNECTION REQUEST message to respond to a PAGING TYPE 1</u> <u>message.rremain in the idle mode and not respond to the paging message sent on PCCH as well as</u>

paging message addressed to it on the DCCH.

After step 10 the UE shall remain in the idle mode and not respond to the paging message sent on PCCH as well as

paging message addressed to it on the DCCH.

# 8.3.1.11 Cell Update: Success after T302 time-out

8.3.1.11.1 Definition

#### 8.3.1.11.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update the UTRAN with the current cell of the UE. When the UE does not receive a CELL UPDATE CONFIRM message upon expiry of timer T302, the UE transmits a CELL UPDATE message repeatedly until its internal counter V302 counter is greater than N302.

# Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.11.3 Test purpose

To confirm that the UE repeats the transmission of CELL UPDATE message <del>upon the expiry of timer T302,</del> after failing to receive any response from the SS <del>during T302 timer period</del><u>before T302 timer expires</u>.

8.3.1.11.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4)</u> in cell 1-as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

# Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH. The IE "Cell update cause" in this message shall be set to "periodical cell update". SS ignores this message, and the UE shall then re-transmit a CELL UPDATE message after the expiry of timer T302. When the SS has received (N302+1) such messages, it transmits a CELL UPDATE CONFIRM message with new values for "C-RNTI" to the UE. Finally, the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

#### Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts from CELL_FACH state. SS initializes its internal counter K to 0 and waits until the expiry of T305 timer.
2		<b>&gt;</b>	CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause"-after the expiry of timer T305 or timer T302.
3				If K is equal to N302_then proceeds to step 5.
4				SS increments counter K, transmits no response to the UE and waits for an additional period equal to the value of timer T302. The next step is step 2.
5		÷	CELL UPDATE CONFIRM	The message includes IEs "new C-RNTI". The IE "RRC State Indicator" is set to "CELL_FACH".
6		$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	

# Specific Message Contents

CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Periodic cell updating'

# CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
New C-RNTI	Set to an arbitrary string different from '0000 0000 0000 0001'

# 8.3.1.11.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmit a CELL UPDATE message on the uplink CCCH, setting "periodical cell update" into IE "Cell update cause".

After step 2 the UE shall re-transmits a CELL UPDATE message after the expiry of timer T302. A total of (N302+1) transmissions of CELL UPDATE message shall be detected in SS.

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and stays at CELL_FACH state.

# 8.3.1.12 Cell Update: Failure (After Maximum Re-transmissions)

8.3.1.12.1 Definition

# 8.3.1.12.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update UTRAN with information on the current cell of the UE. If the UE fails to receive a CELL UPDATE CONFIRM message, it re-transmits a CELL UPDATE message repeatedly upon the expiry of timer T302 until the value of V302 counter is greater than N302. If V302 is greater than N302, the UE stop the re-transmission and enters idle state.

#### Reference

3GPP TS 25.331 clause 8.3.1

#### 8.3.1.12.3 Test purpose

To confirm that the UE repeats the cell update procedure <u>at upon</u> the expiry of timer T302 and moves to idle state when its internal counter V302 is greater than N302.

8.3.1.12.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u><u>CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4)</u> in cell 1-as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

# **Test Procedure**

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodic cell updating procedure. The

SS ignores this message, and the UE shall attempt to re-transmit a CELL UPDATE message up to a maximum of (N302+1) times after the expiry of timer T302. After (N302) attempts of retransmission, the UE shall return to idle state. <u>SS transmits a PAGING TYPE 1 message with UE's identity. UE shall respond with a RRC CONNECTION REQUEST message.</u>

#### Expected sequence

Step	Dire	ction	Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS sets its internal counter K=0 and waits for a period equals to timer value T305. If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 4.
2	-	<b>&gt;</b>	CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause"-and this message shall be sent on expiry of timer T302 or timer T305.
3				SS transmits no response to the UE and increments counter K.
4				SS waits for an additional period equal to T302 timer and if K is not greater than N302, then next step is step 2. Else the next step is step 5If CELL UPDATE message is received, proceed to step 2. Otherwise, terminates the test. If K is not equal to N302+1, the test shall be considered as a failure.
<u>5</u>				The UE shall enter idle mode state.

# Specific Message Contents

# CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Periodic cell updating'

# 8.3.1.12.5 Test requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodical cell update" into IE "Cell update cause".

After step 3 and if K is not greater than N302, the UE shall retry to transmit a CELL UPDATE message.

After step 4 the counter K in SS shall be equal to N302+1.

# 8.3.1.13 Cell Update: Reception of Invalid CELL UPDATE CONFIRM Message

# 8.3.1.13.1 Definition

#### 8.3.1.13.2 Conformance Requirement

If the UE encounters an invalid CELL UPDATE CONFIRM message while executing a cell update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set contexts pertaining to protocol error, re-transmits <u>a</u> CELL UPDATE message on uplink CCCH, restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the invalid downlink message. <del>On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.</del>

#### 8.3.1.13.3 Test Purpose

To confirm that the UE retransmits <u>a</u> CELL UPDATE message when it receives an <u>erroneous-invalid</u> CELL UPDATE CONFIRM message, <u>if-before</u> the number of retransmissions <u>is nothas reached</u> the maximum allowed value. <del>To</del> confirm that the UE returns to idle mode after sending maximum allowed number of CELL UPDATE messages without receiving a valid CELL UPDATE CONFIRM message.

8.3.1.13.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending <u>a</u> PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit <u>a</u> CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with an invalid CELL UPDATE CONFIRM message-<u>on downlink DCCH using UM RLC</u>. The UE shall detect the protocol error and re-transmit <u>a</u> CELL UPDATE message up to a maximum of N302 times. The time interval between the transmissions shall be approximately equal to T302. SS verifies that it receives a total of (N302+2) identical CELL UPDATE messages. The UE shall return to idle mode after all uplink transmissions have finished. SS verifies this by paging the UE using the U-RNTI identity. The UE shall not respond to this page. Next, the UE is paged with CN domain identity (TMSI or P TMSI) to verify that it returned to idle mode then transmit a valid CELL UPDATE CONFIRM message.

# **Expected Sequence**

Step	Direction	Message	Comment
	UE SS		
1	÷	PAGING TYPE 1	The UE is in the CELL_PCH state. SS sets its internal counter K=0. SS pages for the UE using the allocated connected mode identity (U-
2	<i>→</i>	CELL UPDATE	If CELL UPDATE message is received, check Check that the value "paging response" is set in IE "Cell update cause". Else goes to step 6.
3	÷	CELL UPDATE CONFIRM	SS transmits an invalid messageSee specific message content.SS increments K.
4	→	CELL UPDATE	SS waits for T302 timer to expire. The UE shall send CELL UPDATE message.Check that the value "paging response" is set in IE "Cell update cause", the value "protocol error" is set in IE "failure cause" and the value "ASN.1 violation and encoding error" is set in IE "Protocol error information".
5	÷	CELL UPDATE CONFIRM	If a CELL UPDATE message is received in step 4, SS increments K and returns to step 3. Else, SS proceeds to step 6. Use the default message found in Annex A.
6			SS verifies that K = (N302+1) and proceeds to the next step. Else, the test fails.
7	÷	PAGING TYPE 1	SS pages the UE. Paging identity is U-RNTI
8			UE shall not respond. This is verified for 3 seconds.
Ð	<del>&lt;</del>	PAGING TYPE 1	SS pages UE for CS or PS services depending on CN domain supported by the UE. Paging identity is either TMSI or P-TMSI
10	->	RRC CONNECTION REQUEST	
11	<del>&lt;-</del>	RRC CONNECTION REJECT	

# Specific Message Content

# CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'

#### CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range value.Not Present

#### CELL UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if it is set to 'protocol error'
-Protocol error information	Check to see if it is set to <u>"ASN.1 violation and encoding</u>
	error"'Information element value not comprehended'

# PAGING TYPE 1 (Step 1 and 7)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

# 8.3.1.13.5 Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause".

<u>After step 3 the UE shall transmit a CELL UPDATE message on the uplink CCCH, setting "paging response" into IE "Cell update cause", "protocol error" into IE "failure cause" and "ASN.1 violation or encoding error" into IE "Protocol error information".</u>

#### After step 3 the UE shall continue to transmit CELL UPDATE message for N302+1 times.

At step 6 the counter K shall be equal to (N302+1).

After step 7 the UE shall return to idle mode and not respond the PAGING TYPE 1 message sent by the SS.

# 8.3.1.14 Cell Update: Incompatible simultaneous reconfiguration

8.3.1.14.1 Definition

#### 8.3.1.14.2 Conformance Requirement

If the UE encounters a CELL UPDATE CONFIRM message that includes "Physical channel information elements" and UE's variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set IE "failure cause" to "Incompatible simultaneous reconfiguration", re-transmits <u>a</u>CELL UPDATE message on uplink CCCH,

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restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the downlink message. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.

#### 8.3.1.14.3 Test Purpose

To confirm that the UE retransmits <u>a</u> CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that includes "Physical channel information elements" and UE's variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure, <del>if before</del> the number of retransmissions has <del>not</del>-reached the maximum allowed value.

8.3.1.14.4 Method of Test

**Initial Condition** 

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

#### **Test Procedure**

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending <u>a</u> PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit <u>a</u> CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message contains IE "Physical channel information elements". Following that, SS immediately transmits another CELL UPDATE CONFIRM message contains IE "Physical channel information elements". Following that, SS immediately transmits another CELL UPDATE CONFIRM message contains IE "Physical channel information elements". The UE shall re-transmits activation time" indicated in the previous CELL UPDATE CONFIRM message expires. The UE shall re-transmit <u>a</u> CELL UPDATE message with the same cause as the previous CELL UPDATE message and failure cause as "Incompatible simultaneous reconfiguration". SS then transmits a CELL UPDATE message to end the procedure.

#### Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	€		PAGING TYPE 1	
2	$\rightarrow$		CELL UPDATE	
3	÷		CELL UPDATE CONFIRM	SS transmits this message including IE "Physical channel information elements".
4	÷		CELL UPDATE CONFIRM	Sent before the activation time specified in the message in step 3 has elapsed.SS transmits this message including IE "Physical channel information elements".
5	$\rightarrow$		CELL UPDATE	
6	€		CELL UPDATE CONFIRM	

# Specific Message Content

# CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'

# CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if set to 'Incompatible simultaneous
	reconfiguration'

# CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Maximum allowed UL TX power	30dBm

# CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Maximum allowed UL TX power	25dBm

# CELL UPDATE CONFIRM (Step 5)

Use the same message sub type found in Annex A.

# PAGING TYPE 1 (Step 1)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
<ul> <li>CHOICE Used paging identity</li> </ul>	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

# 8.3.1.14.5 Test Requirement

#### After step 1, UE shall transmit a CELL UPDATE messageperform cell update procedure.

After step 4 the UE shall re-transmit <u>a CELL UPDATE message cell update procedure</u> with failure cause set to "Incompatible simultaneous reconfiguration".

# 8.3.1.15 Cell Update: Unrecoverable error in Acknowledged Mode RLC

# 8.3.1.15.1 Definition

# 8.3.1.15.2 Conformance Requirement

In CELL_FACH, the UE shall ensure that all AM RLC entities (both signalling and u-plane links) are operational. In the event that an unrecoverable error has occurred, the UE shall trigger cell update procedure to report this event. The UE shall send <u>a</u> CELL UPDATE message on the uplink CCCH and set the appropriate AM_RLC error indicator IE(s) to TRUE. After receiving the CELL UPDATE CONFIRM message, the UE shall reset the affected AM RLC entities and then resume transmission and reception activities.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.15.3 Test Purpose

To confirm that the UE reports the occurrence of an unrecoverable error in a C-plane AM RLC entity by initiating cell update procedure. To confirm that the UE is able to resume normal C-plane data transmission and reception after the completion of cell update procedure.

8.3.1.15.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CS-<u>CELL_FACH_InitialDCCH+DTCH_DCH</u> (state 6-29) or PS-<u>DCCH+DTCH_DCH</u> <u>CELL_FACH_Initial</u> (state 6-410) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE

#### Test Procedure

The UE is initially in CELL_FACH_DCH state. SS sends <u>a</u> UE CAPABILITY ENQUIRY message on the DCCH using AM mode. The UE shall reply with a UE CAPABILITY INFORMATION message, sent using AM RLC on the DCCH. SS does not acknowledge the AM PDUs carrying this message. The UE shall continue to <u>re-</u>transmit the AM PDU carrying UE CAPABILITY INFORMATION message until the maximum re-transmission count is reached. Thereafter,

the UE shall start sending RESET PDUs to request that the AM RLC entity for RRC signalling be re-initialized. SS ignores the requests and wait for a duration equivalent to (MAX_RST+1) times expiry of Timer_RST. At this point, the UE shall initiate a cell update procedure by transmitting <u>a</u> CELL UPDATE message on the uplink CCCH. The CELL

UPDATE message shall specify the value "TRUE" in IE "AM_RLC error indicator (RB2 or RB3)" and "RLC unrecoverable error" as the cell update cause. SS replies with CELL UPDATE CONFIRM message with IE "RLC reestablish indicator (RB2 and RB3)" set to TRUE. SS then attempts to perform a local authentication by transmitting a UE CAPABILITY ENQUIRY message using AM RLC on DCCH. The UE shall respond by sending a UE CAPABILITY INFORMATION message on the uplink DCCH, verifying that the AM RLC entity for RRC signalling was successfully reset. SS shall transmit <u>a</u> UE CAPABILITY INFORMATION CONFIRM message to UE to end the test.

Step	Direction		Message	Comment
	UE	SS		
1				The UE is initially in CELL FACH-DCH state.
2		÷	UE CAPABILITY ENQUIRY	
3		<i>→</i>	UE CAPABILITY INFORMATION	UE shall stay in CELL_FACH state. SS does not acknowledge this AM PDU. The UE shall re-transmit this AM PDU until the maximum number has been reached.
4				UE shall start to transmit <u>a</u> RESET PDU-using AM RLC on the DCCH. SS does not respond to any <u>RESET</u> PDU frames originating originated from the UE, and it waits for a period equivalent to (MAX_RST+1) times expiry of Timer_RST.
5		<b>→</b>	CELL UPDATE	UE shall send this message on CCCH. IE "AM_RLC Error Indication (RB2 or RB3)" shall be set to 'TRUE'
6		÷	CELL UPDATE CONFIRM	"RRC State Indicator" set to "CELL_FACH". UE shall transit to CELL_FACH state.IE "RLC re-establish indicator (RB2 and RB3)" set to TRUE.
7		$\leftarrow$	UE CAPABILITY ENQUIRY	
8		$\rightarrow$	UE CAPABILITY INFORMATION	This message shall be transmitted using AM RLC for RRC signalling on the uplink DCCH.
9		÷	UE CAPABILITY INFORMATION CONFIRM	
				J

#### **Expected Sequence**

#### Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2 and 7)

Use the same message found in Annex A.

# UE CAPABILITY INFORMATION (Step 3 and 8)

Only the message type IE is checked for this message.

# CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
AM_RLC error indicator (RB2 or RB3)	Check to see if set to 'TRUE'
Cell update cause	RLC unrecoverable error

# CELL UPDATE CONFIRM (Step 6)

Use the same message found in Annex A, with the following exception.

Information Element	Value/remark
RLC re-establish indicator (RB2 and RB3)	Check to see if set to 'TRUE'

# UE CAPABILITY INFORMATION CONFIRM (Step 9)

Use the same message found in Annex A.

#### 8.3.1.15.5 Test Requirement

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH to report the occurrence of an unrecoverable error in AM RLC entity for RB2 or RB3 data as well as cell update cause set to "RLC unrecoverable error".

After step 7 the UE shall send a UE CAPABILITY INFORMATION message on the uplink DCCH. This message shall be sent using the AM RLC entity for RRC signalling.

# 8.3.1.16 <u>VoidCell Update: cell reselection in CELL_FACH</u>

8.3.1.16.1 Definition

8.3.1.16.2 Conformance requirement

This procedure is used to update UTRAN with the current cell of the UE after it has perform a cell reselection in CELL_FACH state. UE shall receive acknowledgement from UTRAN on downlink CCCH.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.16.3 Test purpose

To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection. To confirm cell update procedure completes after UE receives CELL UPDATE CONFIRM on downlink CCCH from UTRAN.
8.3.1.16.4 Method of test

#### **Initial Condition**

System Simulator: 2 cells Cell 1 is active, with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1 1, while cell 2 is inactive

UE: CS CELL_FACH_Initial (state 6 2) or PS CELL_FACH_Initial (state 6 4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE, ciphering in both UL and DL are disabled during RRC connection establishment.

#### Test Procedure

The UE is in the CELL_FACH state, camping onto cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.1 1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE " Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", IE "U RNTI" and an IE "New U RNTI" to the UE on the downlink CCCH. UE shall response with UTRAN MOBILITY INFORMATION CONFIRM message... UE shall move to CELL_PCH state.

#### Expected sequence

Step	Direc	tion	Message	Comment
	UE	<del>\$\$</del>		
1				The UE is in the CELL_FACH
				state in cell 1
2	<ul> <li>←</li> </ul>		BCCH	SS applies the downlink
				transmission power settings,
				according to the values in
				columns "T1" of Table 8.3.1.1-
				1. The UE shall find that the
				cell 2 is better for service and
				perform a reselection. SS
				waits for the maximum
				duration required for the UE to
				camp to cell 2.
3		<del>)</del>	CELL UPDATE	Value "cell reselection" shall
				be indicated in IE " Cell update
				cause"
5		→	UTRAN MOBILITY INFORMATION	
			CONFIRM	

#### **Specific Message Contents**

#### **CELL UPDATE (Steps 3)**

Use the same message sub type found in Clause 9 of TS34.108.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Cell Re-selection'

## CELL UPDATE CONFIRM (Step 4)

Use the same message sub type found in Annex A, with the following exceptions:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	' <del>0000 0000 0001'</del>
- S-RNTI	' <del>0000 0000 0000 0000 0001'</del>
RRC State Indicator	CELL_PCH
New U-RNTI	
- SRNC Identity	<u>-'0000 0000 0000 0001'</u>
- S-RNTI	An arbitrary 20-bits string which is different from original
	S-RNTI

8.3.1.16.5 Test requirement

After step 2 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE " Cell update cause".

After step 4 the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message.

# 8.3.1.17 Cell Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)

8.3.1.17.1 Definition

## 8.3.1.17.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update UTRAN with information on the current cell of the UE. If the UE receives a RRC CONNECTION RELEASE message on CCCH, it shall release all its radio resources and enter idle mode.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.1.17.3 Test purpose

To confirm that the UE moves to idle state upon the reception of RRC CONNECTION RELEASE message on DCCH.

8.3.1.17.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u><u>CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1, depending on the CN domain(s) supported by the UE.</u>

## Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodical cell updating procedure. The SS transmits <u>a</u> RRC CONNECTION RELEASE message on downlink CCCH. The UE shall return to idle mode after release of all current signalling flows and radio access bearers. <u>SS verifies that UE is in idle mode state by This is verified by paging the UE using previously allocated U RNTI, in which case the UE shall not respond, and then paging the UE with CN identity, in which case the UE shall attempt to establish a RRC connection.</u>

## Expected sequence

	Step	Dire	ction	Message	Comment
	-	UE	SS		
	1	-	<b>&gt;</b>	CELL UPDATE	The value "periodical cell update" shall be set in IE "-Cell update cause" and this message shall be sent upon expiry of timer T305.
	2	*	<u>.</u>	RRC CONNECTION RELEASE	SS transmits <u>a</u> RRC CONNECTION RELEASE message to the UE.
	3	+	÷	PAGING TYPE 1 <u>Void</u>	SS pages the UE using the previously allocated U-RNTI.
	4			Void	The UE shall not respond to this page as it has already entered the idle mode. This is verified for 10 s.
	5	<u> </u>	<u></u>	PAGING TYPE 1	Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.
	6	$\rightarrow$	<u>-&gt;</u>	RRC CONNECTION REQUEST	
	7	4	<del>.</del> -	RRC CONNECTION REJECT	

# Specific Message Contents

## CELL UPDATE (Step 1)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Periodic cell updating'

## **RRC CONNECTION RELEASE (Step 2)**

Only the message type is checked for this messageUse the same message sub-type found in Annex A.

# PAGING TYPE 1 (Step 5)

Use the same message type found in Annex A, with the following exception.

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Used paging identity	<u>CN identity</u>
- Paging cause	Terminating Call with one of the supported services
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the IMSI value stored in the TEST USIM card.

## 8.3.1.17.5 Test requirement

In step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodical cell update" into IE " Cell update cause".

After step 2-5 the UE transmit a RRC CONNECTION REQUEST message.shall return to idle mode.

# 8.3.1.18 Cell Update: Radio Link Failure (T314>0, T315=0)

# 8.3.1.18.1 Definition

## 8.3.1.18.2 Conformance requirement

When a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. UE must release the radio bearer which is associated with T315 if T315 is set to 0. After a successful cell re-selection and subsequent transition to CELL_FACH state, the UE transmits CELL UPDATE message on the uplink CCCH.

If the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message and the maximum allowable number of retransmission has not been reached, the UE shall select a suitable UTRA cell and transmit a CELL UPDATE message.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.1.18.3 Test purpose

To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell after detecting that a radio link failure has occurred.

To confirm that the UE performs a cell selection procedure when it fails to configure the physical channel(s) indicated in the CELL UPDATE CONFIRM message.

## 8.3.1.18.4 Method of test

Initial Condition

System Simulator: 2 cells • Cell 1 is active, Cell 2 is inactive •

UE: CS_DCCH<u>+DTCH_DCH</u> (state 6-<u>59</u>) or PS_DCCH<u>+DTCH_DCH</u> (state 6-<u>710</u>) in cell 1, depending on the CN domain(s) supported by the UE.

## Test Procedure

Table 8.3.1.18	
----------------	--

Parameter	<u>Unit</u>	Ce	<u>ll 1</u>	Ce	<u>ll 2</u>
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
UTRA RF		<u>Ch</u>	. 1	Ch	n. <u>1</u>
Channel					
Number					
CPICH Ec	dBm <mark>/3.84MHz</mark>	-60	OFF	<u>-75</u>	-60

Table 8.3.1.18 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is brought to CELL_DCH state in a cell 1 after making ana successful outgoing call attempt. After the call has been established, <u>SS transmits UTRAN MOBILITY INFORMATION message to UE to change to value of T315 timer.</u> <u>UE shall respond with a UTRAN MOBILITYBINFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.1.18SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure in cell 1 and indicate to the non-access stratum the release of the radio bearer which is associated with T315. Then it shall attempt to re-select to cell 2. After that, it shall then enter CELL_FACH state and transmits CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes IE "new C RNTI"dedicated physical channel parameters. SS shall not configure according to this message and its downlink transmission power settings according to this message and its downlink transmission power settings according to columns "T0" in Table 8.3.1.18. UE shall fail to establish the dedicated channel in cell 2. UE shall re-select to cell 1 and transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure". Then SS responds with a</u>

<u>CELL UPDATE CONFIRM message to end the procedure.</u> transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

#### Expected sequence

Step	Direction UE SS	Message	Comment
1	÷	UTRAN MOBILITY INFORMATION RADIO BEARER SETUP	T315=0
2	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRMRADIO BEARER SETUP COMPLETE	
3		Void	The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
4	<i></i>	BCCH	SS configures cell 1 and 2 according to column "T1" in Table 8.3.1.18.The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5		Void	The SS stops transmitting
6			The UE detects the radio link failure which is associated with T315. The UE indicates to the non-access stratum the release of the radio bearer
7	<i>→</i>	CELL UPDATE	The UE shall find a new cell 2 and the value "radio link failure" shall be set in IE "Cell update cause".
8	<i></i>	CELL UPDATE CONFIRM	Including <del>IE "new U-</del> RNTI" and IE "new C- RNTI" <u>dedicated physical</u> channel parameters.
9	→	UTRAN MOBILITY INFORMATION CONFIRM	SS does not configure according to the message in step 8. SS configures cell 1 and 2 according to column "T0" in Table 8.3.1.18.
<u>10</u>	<u>→</u>	CELL UPDATE	UE shall select cell 1 and enter CELL FACH state to transmit this message
11	←	CELL UPDATE CONFIRM	

## Specific Message Contents

# RADIO BEARER SETUPUTRAN MOBILITY INFORMATION (Step 1)

The contents of <u>RADIO BEARER SETUPUTRAN MOBILITY INFROMATION</u> message in this test case is identical to those in <u>default contents of layer 3 messages for RRC testsAnnex A</u> with the following exceptions:

Information Element	Value/remark
RAB information to setup listNew U-RNTI	Not Present
— - RAB information to setupNew C-RNTI	Not Present
UE Timers and constants in connected mode RAB	
info	
- T315	0

# CELL UPDATE (Step 7)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
-SRNC Identity	Check to see if set to value assigned previously in cell
- S-RNTI	4 <u>2</u> . Check to see if set to value assigned <del>previously i</del> n cell 42.
Cell Update Cause	Check to see if set to 'radio link failure'

# CELL UPDATE CONFIRM (Step 8)

Use the same message sub-type found in step 4<u>Annex A</u>, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	<u>-'0000 0000 0001'</u>
- S-RNTI	An arbitrary 20-bits string which is different from original
	S-RNTI
New C-RNTICHOICE channel requirement	An arbitrary 16-bits string which is different from original
	C-RNTLSame as the set defined in the RADIO
	BEARER SETUP message in initial condition.

## CELL UPDATE (Step 10)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI -SRNC Identity -S-RNTI Cell Update Cause	Check to see if set to value assigned in cell 1. Check to see if set to value assigned in cell 1. Check to see if set to 'radio link failure'

## 8.3.1.18.5 Test requirement

After step 5, the UE shall indicate to the non access stratum the release of the radio bearer which is associated with T315.

After step 1, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message.

After step 6, the UE shall detect the presence of cell 2, perform cell re-selection and transmit <u>a</u> CELL UPDATE message.

After step <u>89</u>, the UE shall transmit <u>a CELL UPDATE UTRAN MOBILITY INFORMATION CONFIRM message to</u> <u>Sswith IE "Cell update cause" set to "Radio link failure"</u>.

# 8.3.1.19 VOID

# 8.3.1.20 Cell Update: Reception of CELL UPDATE CONFIRM Message that causes invalid configuration

8.3.1.20.1 Definition

## 8.3.1.20.2 Conformance Requirement

If the UE encounters a CELL UPDATE CONFIRM message that set the variable INVALID_CONFIGURATION to TRUE while executing a cell update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set IE "failure cause" to "invalid configuration", re-transmits <u>a</u> CELL UPDATE message on uplink CCCH, restart T302 timer and increment<del>s</del> V302. It shall use the same "Cell Update Cause" as before receiving the <u>invaliderroneous</u>-downlink message. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.

## 8.3.1.20.3 Test Purpose

To confirm that the UE retransmits <u>a</u> CELL UPDATE message when it receives a CELL UPDATE CONFIRM message that will trigger an invalid configuration in the UE, if the number of retransmissions has not reached the maximum allowed value. To confirm that the UE returns to idle mode after sending maximum allowed number of CELL UPDATE messages without receiving a valid CELL UPDATE CONFIRM message.

8.3.1.20.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-12) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

## Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending <u>a</u>PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit <u>a</u> CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message with IE "RRC State Indicator" set to "CELL_DCH"which is set to give an invalid configuration. The UE shall detect its variable "invalid configuration" is set and re-transmit CELL UPDATE message up to a maximum of N302 times. SS verifies that it receives a total of (N302+1) identical CELL UPDATE messages. The UE shall return to idle mode after all uplink transmissions have finished. SS verifies this by paging the UE using the U-RNTI identity. The UE shall not respond to this paging message. Finally, to verify that the UE entered Idle Mode, it is paged via TMSI or P TMSI (depending on the CN domain supported), in which case the UE shall attempt to establish a RRC connectionresponds with a valid CELL UPDATE CONFIRM message to end the procedure.

## **Expected Sequence**

	Step	Direction		Direction		Message	Comment
		UE	SS				
	1			PAGING TYPE 1	The UE is in the CELL_PCH state. <del>SS sets its internal</del> <del>counter K=0.</del> SS pages for the UE using the allocated connected mode identity (U- RNTI).		
	2	<i>→</i>		CELL UPDATE	If CELL UPDATE message is received, check that the value "paging response" is set in IE "Cell update cause". Else goes to step 6.		
	3	•	÷	CELL UPDATE CONFIRM	SS transmits an invalid message. <del>SS increments K.</del>		
	4	4 →		CELL UPDATE	IE "failure cause" is set to "invalid configuration"		
ĺ	5	5 _	<u>←</u>	CELL UPDATE CONFIRM	If a CELL UPDATE message		
					is received in step 4, SS increments K and returns to step 3. Else, SS proceeds to step 6.		
	6				SS verifies that K = (N302+1) and proceeds to the next step. Else, the test fails		
	7	<u>×</u> ←		PAGING TYPE 1	SS pages the UE using		
	8				UE shall not respond. This is		
	₽ ←		<del>&lt;-</del>	PAGING TYPE 1	Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.		
ĺ	<del>10</del>	-	>	RRC CONNECTION REQUEST			
	<del>11 &lt;</del>			RRC CONNECTION REJECT			

## Specific Message Content

# CELL UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'

# CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not Present

# CELL UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Cell Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if it is set to 'invalid configuration'

# PAGING TYPE 1 (Step 1 and 7)

Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Used paging identity	UTRAN identity
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

# 8.3.1.20.5 Test Requirement

After step 1 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response".

After step 3 the UE shall transmit a CELL UPDATE message with IE "cell update cause" set to "paging response" and IE "failure cause" set to "invalid configuration".

After step 3 the UE shall continue to transmit CELL UPDATE message for N302+1 times.

In step 6 the counter K shall be equal to (N302+1).

After step 7 the UE shall return to idle mode and not respond the PAGING TYPE 1 message sent by the SS.

# 8.3.2 URA Update

- 8.3.2.1 URA Update: Change of URA
- 8.3.2.1.1 Definition

# 8.3.2.1.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE after a change of URA has occurred in URA_PCH state. It may also be used for supervision of the RRC connection, even if no change of URA takes place.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.1.3 Test purpose

To confirm that the UE executes an URA update procedure after the successful change of URA. To confirm UE responds correctly when it re-selects to a new cell while waiting <u>from for</u> URA UPDATE CONFIRM message from SS.

## 8.3.2.1.4 Method of test

## Initial Condition

System Simulator: 3 cells - Cell 1 and 2 are active with URA-ID 1 and the downlink transmission power shown in column marked "T0" in Table 8.3.2.1–4, while cell 3 is inactive with URA-ID 2

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108<del>, depending on the CN domain(s) supported by the UE</del>, with URA-ID 1 from the list of URA-ID in cell 1

## Test Procedure

Parameter	Unit		Cell 1		Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF		Ch. 1 Ch. 1		Ch. 1						
Channel										
Number										
CPICH	dBm <mark>/3.84MHz</mark>	-	-	-	-	-	-	-	-	-
RSCPEc		<del>73</del> 60	<del>79</del> 75	<del>79</del> 75	<del>79</del> 75	<del>73</del> 60	<del>79</del> 75	<del>79</del> 75	<del>79</del> 75	<del>73</del> 60

Table 8.3.2.1-1

The test begins with the downlink power transmission of all cells set according to 'T0' column<u>in Table 8.3.2.1</u>. The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. The SS then adjusts the transmission power again according to 'T1' column. This is expected to cause the UE to perform a cell reselection to cell 2. Since same URA identity is broadcasted in cell 1 and 2, the UE shall not perform any URA update procedure due to the change of URA. Next SS adjusts the transmission power according to 'T2' column. UE shall perform a cell reselection to cell 3 and when the UE finds that its current URA-ID 1 is not in the new broadcasted list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH. After the SS receives this message, it transmits <u>a</u> URA UPDATE CONFIRM message, which includes the IEs "RRC State Indicator" and IE "URA-ID" to the UE on the downlink DCCH. The IE "RRC State Indicator" is set to "URA_PCH". UE returns to URA_PCH state in cell 3 without sending <u>any</u> uplink response message. Next SS adjusts the transmission power according to 'T1' column. UE shall re-select to cell 2 and transmit <u>a</u> URA UPDATE message to SS. However, SS do not acknowledge but adjusts the transmission power according to 'T0' column. UE shall perform cell re-selection to cell 1 and then sent <u>a</u> URA UPDATE message to SS. Finally SS shall transmit URA UPDATE CONFIRM message to UE.

## Expected sequence

	Step	Direction		Direction		Direction		Message	Comment
	-	UE	SS	-					
	1				The UE is updated with only 1 URA identity carried currently by cell 1. The starting state of the UE is URA_PCH				
	2	-	÷	BCCH	SS set the power transmission of all cells according to column 'T1' of Table 8.3.2.1-4.				
	3				UE shall perform a cell reselection but shall not transmit URA UPDATE message with the update cause of "change of URA".				
	4		÷	BCCH	SS set the power transmission of all cells according to column 'T2' of Table 8.3.2.1-4.				
	5		<i>→</i>	URA UPDATE	The UE shall perform a cell reselection first and when it finds that its current URA-ID 1 is not in the newly broadcasted list of URA-IDs, it shall then transmit this message and set value "change of URA" into IE "URA update cause".				
	6		÷	URA UPDATE CONFIRM	Message comprises IE "RRC State Indicator" set "URA_PCH", and also IE "URA Identity" equals to "URA-ID 2".				
	7	-	÷	BCCH	SS set the power transmission of all cells according to column 'T1' of Table 8.3.2.1-4.				
	8		$\overline{\rightarrow}$	URA UPDATE					
	9		←	BCCH	SS do not respond to the URA UPDATE message from UE and set the power transmission of all cells according to column 'T0' of Table 8.3.2.1-4.				
	10		$\frac{2}{2}$						
	11	·	←	URA UPDATE CONFIRM					

# Specific Message Contents

URA UPDATE (Step 5, 8 and 10)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'change of URA'

# URA UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:-

Information Element	Value/remark
URA identity	URA-ID 2

# URA UPDATE CONFIRM (Step 11)

Use the same message sub-type found in Annex A, with the following exceptions:-

Information Element	Value/remark
URA identity	URA-ID 1

## 8.3.2.1.5 Test requirement

## After step 2 the UE shall not transmit a URA UPDATE message.

After step 4 the UE shall find that URA-ID 2 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit <u>a</u> URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 7 the UE shall find that URA-ID 1 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and <u>a</u> transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

After step 9 the UE shall find the new cell and transmit a URA UPDATE message setting value "change of URA" into IE "URA update cause".

# 8.3.2.2 URA Update: Periodical URA update and Reception of Invalid message

8.3.2.2.1 Definition

# 8.3.2.2.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE when the UE detects that it is still within the service area after the expiry of periodic URA updating timer T305.

## Reference

3GPP TS 25.331 clause 8.3.1

# 8.3.2.2.3 Test purpose

To confirm that the UE executes a URA update procedure after the expiry of timer T305. To verify that the UE handles an invalid URA UPDATE CONFIRM message correctly when executing the URA update procedure.

## 8.3.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

## Test Procedure

The UE is in the-URA_PCH state. When the UE detects the expiry of timer T305, set according to the value specified in system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be "periodic URA update" in IE "URA update cause". SS replies with an illegal-invalid URA UPDATE CONFIRM message sent on downlink CCCH, and check to see if the UE handles

this event properly. The UE shall attempt to retransmit the identical URA UPDATE message. After the SS receives the second URA UPDATE message, it transmits a correct URA UPDATE CONFIRM message, which includes the IE " new U-RNTI", to the UE on the downlink DCCH. Then the UE shall then transmit<del>s</del> an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. The UE returns to CELL_FACH state.

## Expected sequence

1

Step	Dire	ction	Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T305 timer has expired.
2 →		<b>→</b>	URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE "URA update cause".
3	•	÷	URA UPDATE CONFIRM	See specific message content.
4	-	<b>&gt;</b>	URA UPDATE	UE shall not return to idle mode immediately, but attempts to re-transmit this message.
5	•	÷	URA UPDATE CONFIRM	Including IE "new U-RNTI"
6	-	<i>&gt;</i>	UTRAN MOBILITY INFORMATION CONFIRM	

## Specific Message Contents

# URA UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'Periodic URA update'

# URA UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
RRC Transaction identifier	Check to see if set to the value given in URA UPDATE
	CONFIRM message in step 3.
URA Update Cause	Check to see if set to 'Periodic URA update'
Protocol error indicator	TRUE
Protocol error information	
- Protocol error cause	Information element value not comprehendedASN.1
	violation or encoding error

# URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
UTRAN DRX cycle length coefficientAll IEs	Out of range valueNot Present

# URA UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI SRNC Identity	'0000 0000 0001'
S-RNTI	'0000 0000 0000 0000 1111'

# UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type IE of this message is checked.

## 8.3.2.2.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, move to CELL_FACH state, and transmit a URA UPDATE message which <u>is-sets</u> the value "periodical cell update" into IE "URA update cause".

After step 3 the UE shall re-transmit URA UPDATE message with IE "Protocol error indicator" set to 'TRUE' and IE "Protocol error information" set to "ASN.1 violation and encoding error".

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and returns to the CELL_FACH state.

# 8.3.2.3 URA Update: re-entering of service area after T305 expiry

8.3.2.3.1 Definition

## 8.3.2.3.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE if the UE detects that it is out of service area after the expiry of timer T305, and then subsequently re-enters the service area before the expiry of T307.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.3.3 Test purpose

To confirm that the UE executes a URA update procedure when the UE re-enters the service area before the expiry of timer T307, after being out of service area at the expiry of timer T305.

## 8.3.2.3.4 Method of test

## Initial Condition

System Simulator: 2-1 cells - Cell 1 is active with URA-ID 1 and the downlink transmission power shown in column marked "T0" in Table 8.3.12.1 13, while cell 2 is inactive with URA ID 2

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE, with URA-ID 1 in the list of URA-ID from cell 1

## Test Procedure

# Table 8.3.2.3

Parameter	Unit	Ce	<u>   1</u>
		<u>T0</u>	<u>T1</u>
<u>UTRA RF</u>		Ch	. 1
<u>Channel</u>			
Number			
CPICH Ec	dBm <mark>/3.84MHz</mark>	-60	-80

Table 8.3.2.3 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is initially in URA_PCH state. The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3 so that S < 0. SS decrease the transmission power of cell such that cell selection figure of merit S < 0. When the UE detects the expiry of timer T305 according to the system information, the UE moves to CELL_FACH state and finds that it is out of service area. The UE is expected to search for cell to camp. Then <u>SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 so that S > 0. SS increases the transmission power so that the The UE shall detects that it returns to normal service within before T307 expires. The UE shall move to CELL_FACH state and starts transmitting a URA UPDATE message which contains the value "re-entered service area" in IE "URA update cause" to the SS on the uplink CCCH. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE "new C-RNTI", and "new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. Next, transmission power of cell 1 is decreased such that cell selection figure of merit S<0. SS waits until T305 timer has expired and then turns on cell 2. The UE shall discover that cell 1 is no longer suitable for camping and initiate a cell search. It shall detect the presence of cell 2 and reselects to this cell. When the UE finds that URA ID 2 is not in its current list of URA IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH.</u>

## Expected sequence

Step	ep Direction		Message	Comment
	UE	SS		
1				The UE starts operating from URA_PCH state.
<u>1a</u>	<u> </u>	<u>-</u>	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
<u>1b</u>	<u> </u>	-	PAGING TYPE 1	Include IE "BCCH modification info"

2			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3SS decreases the transmission power such that the cell 1 is no longer
3			The UE shall attempt to perform a URA update upon the expiry of timer T305. It shall discover that it is out of service and starts searching for cell to camp.(T307 timer starts)
4			SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 SS increases the transmission power to the original level-before T307 expires.
5	$\rightarrow$	URA UPDATE	Value "re-entered service area" shall be set in IE "URA update cause"
6	÷	URA UPDATE CONFIRM	The message includes IEs "new C-RNTI" , and "new U- RNTI"
7	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	
8			SS decreases the transmission power such that the cell 1 is no longer suitable for camping i.e. S<0and wait until T305 expires.
9			SS starts sending BCCH for cell 2 with URA-ID 2 and.
10	→	URA UPDATE	UE shall detect the presence of cell 2 and re-select to it. It shall transmit this message with cause set to "change of URA"
11	<del>~</del>	URA UPDATE CONFIRM	

## Specific Message Contents

# MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
MIB Tag	2

# SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark
Qrxlevmin	<u>-70</u>

## PAGING TYPE 1 (Step 1b)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2
BCCH modification time	Not present

## URA UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs: Use the same message sub-type found in Annex A, with the following exceptions:

# URA UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 're-entered service area'

# URA UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 1111 1111'
New C-RNTI	Arbitrary 16-bit string which is different the assigned C-
	RNTI in RRC CONNECTION SETUP message.

# URA UPDATE (Step 10)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 1111 1111'
URA Update Cause	Check to see if set to 'change of URA'

# 8.3.2.3.5 Test requirement

After step 2 the UE shall detect that it is out of service area and shall not send a URA UPDATE on the uplink CCCH channel.

After step 4 the UE shall transmit a URA UPDATE message which sets value "re-entered service area" into IE "URA update cause", before the expiry of timer T307.

After step 6 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

After step 9 the UE shall transmit a URA UPDATE message which sets value "change of URA" into IE "URA update cause".

# 8.3.2.4 URA Update: loss of service after expiry of timers T307 and T305

## 8.3.2.4.1 Definition

## 8.3.2.4.2 Conformance requirement

This procedure is required to handle the case when the UE fails to update UTRAN with the current URA of after expiry of timers T307 and T305 consecutively. The UE shall move to idle mode subsequently.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.4.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of timer T307, following an expiry of timer T305 when it discovers that it is out of service area.

## 8.3.2.4.4 Method of test

#### **Initial Condition**

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

# Table 8.3.2.4

Parameter	<u>Unit</u>	Ce	11
		<u>T0</u>	<u>T1</u>
<u>UTRA RF</u>		Ch	. 1
<u>Channel</u>			
<u>Number</u>			
CPICH Ec	dBm <mark>/3.84MHz</mark>	-60	-80

Table 8.3.2.4 illustrates the downlink power to be applied at various time instants of the test execution. Columns marked "T0" denote the initial conditions.

The UE is in URA_PCH state. <u>The content of the SYSTEM INFORMATION BLOCK TYPE 3 and 4 is modified. SS</u> <u>configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.3 so that S<0. <del>SS</del> <del>decrease the transmission power of cell such that cell selection figure of merit S<0.</del> When the UE detects the expiry of periodic URA updating timer T305 according to the system information, the UE moves to <u>CELL_FACH state and</u> detects that it is out of service area. After the expiry of timer T307, the UE moves to the idle state-<u>and start to perform</u> <del>cell reselection</del>. <u>SS configures its downlink transmission power settings according to columns "T0" in Table 8.3.2.3 so</u> that S>0. <u>SS verifies that UE is in idle mode state by sending a PAGING TYPE 1 message to the UE using UE identity.</u> <u>UE shall respond to this message.</u> <u>SS pages UE using PAGING TYPE 1 message to check if UE is in CELL_FACH state.</u></u>

## Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Initially, the UE is in the URA_PCH state.
<u>1a</u>	<u> </u>	_	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 3 and 4	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents).
<u>1b</u>	<u> </u>	_	PAGING TYPE 1	Include IE "BCCH modification info"
2				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.2.4 SS decreased the downlink transmission of cell 1-so that the UE detects that it is out of service area.
3				Upon the expiry of timer T305, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that URA UPDATE message is not transmitted.
4				After the expiry of timer T307, the UE enters idle state.
5	+	_	PAGING TYPE 1	Set IE "CHOICE Used paging identity" to "UTRAN identity".
6		_	PAGING TYPE 2	

## Specific Message Contents

# MASTER INFORMATION BLOCK (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark	
MIB Tag	2	

# SYSTEM INFORMATION BLOCK TYPE 3 and 4 (Step 1a)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception.

Information Element	Value/remark	
Qrxlevmin	<u>-70</u>	

## PAGING TYPE 1 (Step 1b)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
Paging record list	Not Present
BCCH modification info	
MIB Value tag	2
BCCH modification time	Not present
N Y	

None

#### 8.3.2.4.5 Test requirement

After step 2 the UE shall detect the expiry of timer T305, not transmit any URA UPDATE message on the uplink CCCH, move to CELL_FACH state, and start timer T307.

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After step 5-and 6, UE shall enter idle mode statenot respond to the paging messages.

# 8.3.2.5 URA Update: Success after Confirmation error of URA-ID list

8.3.2.5.1 Definition

## 8.3.2.5.2 Conformance requirement

UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. UTRAN shall respond to the URA UPDATE message by sending a URA UPDATE CONFIRM message. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not found in the list of URA-IDs that is broadcasted in system information block type 2, the UE transmits a URA UPDATE message repeatedly until its internal counter V302 is greater than N302.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.5.3 Test purpose

To confirm that the UE retries to perform the URA update procedure following a confirmation error of URA-ID list.

## 8.3.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

## **Test Procedure**

At the start of this test, the UE is brought to URA_PCH state and assigned a URA with URA-ID 1. When the UE detects the expiry of timer T305 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The reason for performing URA updating shall be set to "periodic URA update" in IE "URA update cause". After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE "new C RNTIRRC state indicator" set to "URA PCH", "new U-RNTI" and IE "URA identity" set to "URA-ID 2" to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the list of URA-IDs broadcasted in system information block type 2, and then the UE shall retry to transmit a URA UPDATE message for a confirmation error of URA-ID list. SS continue to send the same URA UPDATE CONFIRM message to the UE which includes IE "URA Identity" set to "URA-ID 1" and IE "new U-RNTI". The UE shall find this URA-ID in its URA-ID list and transmits an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Expected sequence

	Step	p Direction Message		Comment	
	-	UE SS			
	1			The UE is URA_PCH state. SS initializes counter K to 0	
	2	$\rightarrow$	URA UPDATE	This message shall contain value "periodic URA update" set in IE <u>"</u> URA update cause" after expiry of timer T305.	
	3			SS increments K by 1. If K is not greater than N302, proceed to step 4. If K is greater than N302, SS proceeds to step 5.	
I	4	÷	URA UPDATE CONFIRM	SS transmits this message, setting the value "URA-ID 2" to IE "URA Identity". SS waits for T302 to expires and then returns to step 2.	
	5	÷	URA UPDATE CONFIRM	SS transmits this message, setting IE "URA Identity" to "URA-ID 1". This message also comprises IE "New U- RNTI".	
	6	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM		

## Specific Message Contents

# URA UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'Periodic URA update'

# URA UPDATE CONFIRM (Step 4)

Use the same message sub-type as specified in Annex A, with the following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
URA Identity	2

# URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as specified in Annex A, with the following exceptions:

Information Element	Value/remark	
New U-RNTI		
-SRNC Identity	'0000 0000 0001'	
-S-RNTI	'0000 0000 0000 0101 0101'	
URA Identity	1	

# UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type IE in this message is checked.

## 8.3.2.5.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, move to CELL_FACH state, transmit a URA UPDATE message on the uplink CCCH and set value "periodic URA update" into IE "URA update cause".

After step <u>2-4</u> the UE shall repeatedly-re-transmit a URA UPDATE message after it detects a confirmation error of URA-ID list for the URA-ID indicated in the URA UPDATE CONFIRM message. A total of (N302+1) URA UPDATE messages shall be received by the SS.

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

- 8.3.2.6 URA Update: Failure (V302 is greater than N302: Confirmation error of URA-ID list)
- 8.3.2.6.1 Definition

## 8.3.2.6.2 Conformance requirement

UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not in the list of URA-IDs that is broadcasted in system information block type 2, the UE transmits URA UPDATE messages repeatedly until its internal counter V302 is greater than N302. If V302 is greater than N302 then the UE enters idle state.

## Reference

3GPP TS 25.331 clause 8.3.1

# 8.3.2.6.3 Test purpose

To confirm that the UE make repeated attempts to perform the URA update procedure following a detection of a confirmation error of URA-ID list. It then moves to idle state when internal counter V302 is greater than N302.

# 8.3.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

The UE is originally in the-URA_PCH state updated with URA-ID 1. When the UE detects the expiry of timer T305 according to the system information, the UE shall move to CELL_FACH state and transmit a URA UPDATE message to the SS on the uplink CCCH. In this message, the value "periodic URA update" shall be set in IE "URA update cause". After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE "new C RNTI", "new U RNTIRRC state indicator" set to "URA PCH" and indicating the IE "URA Identity" to be "URA-ID 2" to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the list of URA-IDs broadcasted₁₇ Then the UE shall retry to transmit a URA UPDATE message for N302 times and each time the <u>SS responds with the URA UPDATE CONFIRM message similar to the previous one</u>. After that, the UE shall enter idle state.

Expected sequence

	Step	Direction		Message	Comment
	-	UE	SS	_	
	1				The UE is in URA_PCH state at the start of the test. SS sets internal counter K to 0.
	2	-	<b>&gt;</b>	URA UPDATE	The message shall indicate "periodic URA update" in IE "URA update cause". This message is sent following the expiry of timer T305. SS increments counter K by 1.
	3	•	<del>.</del>	URA UPDATE CONFIRM	The SS transmit this message and set IE "URA Identity" to "URA-ID 2". When K is greater than N302 proceeds to step 4, else SS waits for T302 to expires and executes step 2.
	4			Void	SS waits for a T305 to verify that no further URA UPDATE messages are transmitted by UE. The counter K shall be equal to (N302+1). The UE shall enter idle state.

## Specific Message Contents

# URA UPDATE CONFIRM (Step 43)

Use the same message sub-type defined in Annex A, with the following exceptions:

Information Element	Value/remark
URA Identity	2

## 8.3.2.6.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting value "periodic URA update" into IE "URA update cause".

After step 2-3 and if K is not greater than N302, the UE shall retry to transmit a URA UPDATE message after it detects the confirmation error of URA-ID list for the URA-ID included in the URA UPDATE CONFIRM message.

After step 3 and if K is greater than N302, the UE shall stop transmitting URA UPDATE message and then enters idle state. The counter K shall be equal to (N302+1).

# 8.3.2.7 URA Update: Success after T302 timeout

8.3.2.7.1 Definition

## 8.3.2.7.2 Conformance requirement

The UE transmits an URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA identity stored the UE. When the UE fails to receive any URA UPDATE CONFIRM message after T302 timer expiryexpires, it transmits a URA UPDATE message repeatedly at an interval of T302 timer value until its internal counter V302 is greater than N302.

# Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.7.3 Test purpose

To confirm that the UE attempts to repeat the URA update procedure upon the expiry of timer T302. To confirm that a maximum of N302 re transmission is performed.

8.3.2.7.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

The UE is in the-URA_PCH. When the UE detects the expiry of timer T305 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH, setting value "periodic URA update" into IE "URA update cause". The SS ignores this message.<del>, the The</del> UE shall then retry to transmit a URA UPDATE message after the expiry of timer T302. SS <del>continues to ignore further URA UPDATE</del> message until it receives (N302+1) such messages. Then it transmits a URA UPDATE CONFIRM message to the UE which includes IEs "new C RNTI", "new U RNTI". The UE shall then transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to end the procedure.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			The UE is in URA_PCH state at the beginning of test. <del>SS sets counter K to 0.</del> SS waits for T305 to expire.
2	<i>→</i>	URA UPDATE	This message shall contain value "periodic URA update" in IE "URA update cause" sent upon the expiry of timer T305.
3			SS increments K by 1shall not reply.
4	<u></u> →	<u>URA UPDATE</u>	This message shall contain value "periodic URA update" in IE "URA update cause" sent upon the expiry of timer T302.If K is not greater than N302, SS transmits no response to the UE, waits for an additional period equals to T302 timer and returns to step 2. Else, SS executes step 5.
5	÷	URA UPDATE CONFIRM	This message includes IEs" new C-RNTI", "new U-RNTI"
<del>6</del>	$\rightarrow$	UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

## URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as in Annex A., with the following exceptions:

Information Element	Value/remark
New U-RNTI	
SRNC Identity	' <del>0000 0000 0001'</del>
	Arbitrary 20-bit string which is different from S-RNTI
S-RNTI	field in IE "U-RNTI"
New C-RNTI	Arbitrary 16-bit string which is different the assigned C-
	RNTI in RRC CONNECTION SETUP message.

## 8.3.2.7.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH. The updating cause shall be set to "periodic URA update" in IE "URA update cause".

After step 2-3 the UE shall retry to transmit a URA UPDATE message at each the expiry of timer T302. UE shall attempt to re transmit N302 URA UPDATE messages.

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

# 8.3.2.8 <u>VoidURA Update: Failure (V302 is greater than N302:T302 timeout)</u>

8.3.2.8.1 Definition

## 8.3.2.8.2 Conformance requirement

The UE transmits a URA UPDATE message to the UTRAN when it needs to update the UTRAN with the current URA of the UE. When the UE fails to receive the URA UPDATE CONFIRM message, the UE transmits a URA UPDATE message repeatedly after every expiry of T302 until its internal counter V302 is greater than N302. If V302 is greater than N302, UE stops sending URA UPDATE message and then enters idle state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.2.8.3 Test purpose

To confirm that the UE retries to perform the URA update procedure upon expiry of timer T302 and moves to idle state after retrying for N302 times.

8.3.2.8.4 Method of test

**Initial Condition** 

System Simulator: 1 cell

UE: URA_PCH (state 6 13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

**Test Procedure** 

The UE is in the URA_PCH state. When the UE detects the expiry of timer T305 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. This message shall contain value "periodical URA update" in IE "URA update cause". SS ignores this message, the UE shall

continue to transmit URA UPDATE messages for N302+1 times after the expiry of timer T302. After N302 retransmissions, the UE shall enter idle state.

#### Expected sequence

Step	Direc	ction	Message	Comment
	UE	<del>\$\$</del>		
4				The UE is in URA_PCH state
				and SS sets counter K=0. SS
				wait until T302 expires.
2		≻	URA UPDATE	The value "periodic URA
				update" shall be set in IE
				"URA update cause".
3				SS ignores the message,
				waits for T302 timer to expire
				and increments K by 1. If a
				message is received after
				T302 expiry, return to step 2.
				Else, go to step 4.
4				SS checks that K is equal to
				<del>(N302+2).</del>
5				The UE shall enter idle state.

#### Specific Message Contents

None

## 8.3.2.8.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting "periodical URA update" into IE "URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message after the expiry of timer T302. SS shall receive (N302+2) CELL UPDATE message. After this, the UE shall enter idle state.

# 8.3.2.9 URA Update: Failure (UTRAN initiate an RRC connection release procedure on CCCH)

8.3.2.9.1 Definition

## 8.3.2.9.2 Conformance requirement

The UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with information on the current URA of the UE. If the UE receives a RRC CONNECTION RELEASE message on downlink CCCH, it shall enter idle state.

## Reference

3GPP TS 25.331 clause 8.3.1

## 8.3.2.9.3 Test purpose

To confirm that the UE moves to idle state upon the reception of RRC CONNECTION RELEASE message on downlink CCCH during a URA update procedure.

8.3.2.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# Test Procedure

The UE is in the URA_PCH state. When the UE detects the expiry of periodic URA updating timer T305, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be "periodic URA update" in IE " URA update cause". The SS transmits RRC CONNECTION RELEASE message on downlink CCCH. The UE shall return to idle mode after release of all current signalling flows and radio access bearers.

# Expected sequence

Step	Direc	tion	Message	Comment
	UE	SS		
1				The UE is in the URA_PCH
				state. SS wait until T305 timer
				has expired.
2		<b>&gt;</b>	URA UPDATE	UE shall transmit this
				message and set value
				"periodic URA update" into IE "
				URA update cause".
3	←		RRC CONNECTION RELEASE	SS transmits RRC
				CONNECTION RELEASE
				message to the UE on the
				downlink CCCH.
4				The UE releases L2 signalling
				radio bearer link and radio
				resources then the UE goes to
				idle mode.

Specific Message Contents

# URA UPDATE (Step 2)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'Periodic URA update'

# **RRC CONNECTION RELEASE (Step 3)**

Use the same message sub-type found in Annex AOnly the message type is checked for this message.

# 8.3.2.9.5 Test requirement

After step 1 the UE shall transmit a URA UPDATE message on the uplink CCCH and set value "periodic URA update" into IE " Cell update cause".

After step 3 the UE shall return toenter idle modestate.

# 8.3.2.10 URA Update: Reception of URA UPDATE CONFIRM message that causes invalid configuration and invalid URA UPDATE CONFIRM message

8.3.2.10.1 Definition

# 8.3.2.10.2 Conformance Requirement

If the UE encounters a URA UPDATE CONFIRM message that set the variable INVALID_CONFIGURATION to TRUE while executing a URA update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall re-transmits URA UPDATE message on uplink CCCH, restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the invalid downlink message. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.

## 8.3.2.10.3 Test Purpose

To confirm that the UE retransmits <u>a</u> URA UPDATE message when it receives a URA UPDATE CONFIRM message that will trigger an invalid configuration in the UE, if the number of retransmissions has not reached the maximum allowed value. To confirm that the UE retransmits URA UPDATE message when it receives an invalid URA UPDATE CONFIRM message.

8.3.2.10.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-13) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

# **Test Procedure**

The UE is in the-URA_PCH state. When the UE detects the expiry of timer T305 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. This message shall contain value "periodical URA update" in IE "URA update cause". Upon receiving such a message, the SS replies with a URA UPDATE CONFIRM message with IE "RRC State Indicator" set to "CELL_DCH". The UE shall detect its variable "invalid configuration" is set and re-transmit URA UPDATE message. Next SS shall transmit an invalid URA UPDATE CONFIRM message. The UE shall detect its variable "PROTOCOL_ERROR_REJECT" is set to TRUE and re transmit URA UPDATE message. SS then transmit an valid URA UPDATE CONFIRM UPDATE message to end the procedure.

## **Expected Sequence**

Step	Direc	tion	Message	Comment
	UE	SS	C C	
1				The UE is in the URA_PCH state. SS wait until T305 timer has expired.
2 →		<b>&gt;</b>	URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE " URA update cause".
3		-	URA UPDATE CONFIRM	
4		<b>&gt;</b>	URA UPDATE	UE shall re-transmit this message. IE "Protocol error indicator" is set to TRUE and IE "Protocol error information" is set to "Information element value not comprehended".
5	+	-	URA UPDATE CONFIRM	SS transmits an invalid message.
6		<b>→</b>	URA UPDATE	UE shall re-transmit this message. See specific message content.
7	€	-	URA UPDATE CONFIRM	

## URA UPDATE (Step 2-and 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'Periodic URA update'

# URA UPDATE (Step 4)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark	
<u>U-RNTI</u>		
- SRNC Identity	Check to see if set to '0000 0000 0001'	
<u>- S-RNTI</u>	Check to see if set to '0000 0000 0000 0000 0001'	
URA Update Cause	Check to see if set to 'Periodic URA update'	
Protocol error indicator	TRUE	
Protocol error information		
- Protocol error cause	Information element value not comprehended	

# URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Annex A, with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH
Uplink DPCH info	Not present

# URA UPDATE CONFIRM (Step 5)

I

Use the same message sub type found in Annex A, with the following exception:

Information Element	Value/remark
Ciphering mode info	
Ciphering mode info	Start
Ciphering algorithm	Not Present
Ciphering activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	Not Present

## URA UPDATE (Step 6)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
URA Update Cause	Check to see if set to 'Paging Response'
Failure cause	Check to see if it is set to 'protocol error'
Protocol error information	Check to see if it is set to 'Conditional information
	element error'

# 8.3.2.10.5 Test Requirement

After step 1 the UE shall detect the expiry of timer T305, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting value "periodic URA update" into IE "URA update cause". After step 3 and 5, the UE shall re transmit URA UPDATE message.

After step 3 the UE shall transmit a URA UPDATE message on the uplink CCCH, setting value 'TRUE" in IE "URA update cause" and value "Information element value not comprehended" in "Protocol error cause".

# 8.3.3. UTRAN Mobility Information

# 8.3.3.1 UTRAN Mobility Information: Success

8.3.3.1.1 Definition

# 8.3.3.1.2 Conformance requirement

This procedure is used by the network to assign a new RNTI identity to the UE. It is initiated by the UTRAN when it sends an UTRAN MOBILITY INFORMATION message, which includes a new C-RNTI and/or U-RNTI on the downlink DCCH. The UE starts to use the new identities and transmits an UTRAN MOBILITY INFORMATION CONFIRM message to the UTRAN on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.3.3

## 8.3.3.1.3 Test purpose

To confirm that the UE starts to use the new identities after it receives an UTRAN MOBILITY INFORMATION message from the SS.

8.3.3.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: <u>PS-DCCH+DTCH_FACH (state 6-11) CS CELL_FACH_Initial (state 6-2) or PS CELL_FACH_Initial (state 6-4)</u> in cell 1-as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

# Test Procedure

Initially, the UE is in the CELL_FACH state and it has been assigned a C-RNTI and U-RNTI. The SS transmits an UTRAN MOBILITY INFORMATION message which includes new C-RNTI and U-RNTI to the UE. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message as confirmation. SS waits for UE to perform periodic cell updatingcell updating. When SS received a CELL UPDATE message, SS checks that UE uses the new U-RNTI in the CELL UPDATE message and the new C-RNTI in the MAC header. Then SS sends CELL UPDATE CONFIRM to end the test procedure. SS waits for UE to perform periodic cell updating. When SS received a CELL UPDATE message, SS sends CELL UPDATE CONFIRM to end the test procedure.

# Expected sequence

	Step	Direction		Message	Comment	
	-	UE	SS			
	1				The initial state of the UE is CELL_FACH state. UE has been allocated both C-RNTI and U-RNTI during RRC connection establishment phase.	
	2	•	<del>.</del>	UTRAN MOBILITY INFORMATION	Contains new C-RNTI and U- RNTI identities and a value for T305 that is different from the value defined in the system information.	
ĺ	3	-	<b>&gt;</b>	UTRAN MOBILITY INFORMATION CONFIRM		
	4				SS wait for T305 (same as the value defined in system information) to expire.	
	5	-	<b>&gt;</b>	CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the UTRAN MOBILITY INFORMATION message in step 2.	
	6	•	÷	CELL UPDATE CONFIRM		
	7				SS wait for T305 (the new value as specified in step 2) to expire.	
	<u>8</u>	-	<u>&gt;</u>	CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the UTRAN MOBILITY INFORMATION message in step 2.	
	<u>9</u>	<u> </u>	É	CELL UPDATE CONFIRM		

# Specific Message Content

# UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub-type as in Annex A, with the following exceptions:

Information Element	Value/remark				
New U-RNTI					
- SRNC Identity	'0000 0000 0001'				
- S-RNTI	'0101 0101 0101 0101 0101'				
New C-RNTI	'1010 1010 1010 1010'				
UE Timers and constants in connected mode					
- T305	5 minutes				

# UTRAN MOBILITY INFORMATION CONFIRM (Step 3)

Only the message type IE is checked in this message.

# CELL UPDATE (Step 5 and 8)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark				
U-RNTI					
- SRNC Identity	Check to see if set to '0000 0000 0001'				
- S-RNTI	Check to see if set to '0101 0101 0101 0101 0101'				
Cell Update Cause	Check to see if set to 'periodical cell updating'				

# CELL UPDATE CONFIRM (Step 6 and 9)

Use the same message sub-type as in Annex A.

# 8.3.3.1.5 Test requirement

After step 2 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. The MAC PDU carrying this message shall comprise either the new C RNTI or U RNTI allocated in the "UE id" field of the MAC header.

After step 4 <u>and 7</u> the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "periodical cell updating". The IE "U-RNTI" shall be identical to the IE "New RNTI" found in UTRAN MOBILITY INFORMATION message sent by the SS in step 2. The MAC header shall contain the new C RNTI.

# 8.3.3.2 UTRAN Mobility Information: Failure (Invalid message reception-and cell reselection)

8.3.3.2.1 Definition

# 8.3.3.2.2 Conformance Requirements

When the UE receives an <u>invalid</u> UTRAN MOBILITY INFORMATION message, which contains an error in one of the mandatory IE, it shall transmit a UTRAN MOBILITY INFORMATION FAILURE message on the DCCH using AM RLC and set the value "protocol error" in the IE "failure cause". The IE "protocol error information" in this message shall also be set to an appropriate value. The UE shall not utilize any identities relayed in the erroneous message, and it shall resume normal operations. When the conditions for cell re selection are met before UE submit UTRAN MOBILITY INFORMATION CONFIRM message to lower layer for transmission, UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message to SS.

# 8.3.3.2.3 Test Purpose

To confirm that the UE ignore the new connected mode identities conveyed in an erroneous UTRAN MOBILITY INFORMATION message. To confirm that the UE and report this event to the UTRAN by sending UTRAN MOBILITY INFORMATION FAILURE message, stating the appropriate failure cause and information. To confirm UE send UTRAN MOBILITY INFORMATION FAILURE message when it performed cell re selection before sending UTRAN MOBILITY INFORMATION CONFIRM message to SS.

## 8.3.3.2.4 Method of test

## **Initial Conditions**

System Simulator: 2-1_cells - Cell 1 is active, with the downlink transmission power shown in column marked "T0" in Table 8.3.1.1 1, while cell 2 is inactive.

UE: <u>PS-DCCH+DTCH_FACH (state 6-11)</u> <u>CS CELL_FACH_Initial (state 6-2)</u> or <u>PS CELL_FACH_Initial (state 6-4)</u> in cell 1-as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

## **Test Procedure**

The UE is brought to CELL_FACH state. SS transmits a UTRAN MOBILITY INFORMATION message to the UE on the DCCH using <u>UMAM</u>-RLC mode. In this message, the <u>all</u> IE<u>s except "Message Type" are "Ciphering mode info" is set to "Start" but IE "Ciphering algorithm" is not present. A new U-RNTI identity is also present in this message. The UE shall respond by transmitting the UTRAN MOBILITY INFORMATION FAILURE message, indicating "protocol error" in IE "failure cause" and also "Information element not comprehended ASN.1 violation and encoding error" in IE "Protocol error information". After receiving the UTRAN MOBILITY INFORMATION FAILURE message, SS waits for a duration to allow-T305 to expire. The UE shall transmit <u>a</u> CELL UPDATE message with the original U-RNTI identity assigned. SS sends CELL UPDATE CONFIRM message to the UE on the downlink DCCH. Then SS again transmits a UTRAN MOBILITY INFORMATION message to the UE on the DCCH using UM RLC mode. Immediately following that, SS reverses the power transmission of both cells (transmission power of both cells are adjusted to "T1" in table 8.3.1.1 1). UE shall re select to the new cell before it can transmit UTRAN MOBILITY INFORMATION CONFIRM message to SS. Then UE shall transmit CELL UPDATE message to SS. SS responds with CELL UPDATE CONFIRM message. Then UE shall transmit CELL UPDATE message to SS. SS responds with CELL UPDATE CONFIRM message to SS.</u>

## **Expected Sequence**

Step	Direction	Message	Comment
	UE SS		
1			The initial state of the UE is CELL_FACH state.
2	÷	UTRAN MOBILITY INFORMATION	SS sends illegal message specific message content.
3	<i>→</i>	UTRAN MOBILITY INFORMATION FAILURE	UE shall transmit this message to report the error in UTRAN MOBILITY INFORMATION message. It shall include the appropriate cause in the message.
4			SS waits for a period up to timer T305 to allow the UE to start performing a cell updating procedure.
5	<i>→</i>	CELL UPDATE	UE shall trigger periodic cell updating. The message shall not contain the U-RNTI given in the UTRAN MOBILITY INFORMATION message in step 2.
6	÷	CELL UPDATE CONFIRM	·
7	÷	UTRAN MOBILITY INFORMATION	
8			SS reverses the transmission power level of cell 1 and cell 2.
9	$\rightarrow$	CELL UPDATE	
<del>10</del>	+	CELL UPDATE CONFIRM	
11	$\rightarrow$	UTRAN MOBILITY INFORMATION	

## Specific Message Content

## UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub type as in Annex A, with the following exceptions:

Information Element	Value/remark
Ciphering mode info	
Ciphering mode command	Start
Ciphering algorithm	Not Present
<ul> <li>Ciphering activation time for DPCH</li> </ul>	Not Present
	Not Present
New U-RNTI	
	0000 0000 0001B
	0000 0000 0000 0000 00011BNot Present

# UTRAN MOBILITY INFORMATION (Step 7)

Use the same message sub type as in Annex A, with the following exceptions:

Information Element	Value/remark				
New U-RNTI					
	0000 0000 0001B				
	0000 0000 0000 0000 00011B				

# UTRAN MOBILITY INFORMATION FAILURE (Step 3)

Information Element	Value/remark			
Message Type RRC transaction identitifer Integrity check info	Not checked. The presence if this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.			
Failure Cause - Failure Cause - Protocol Error Information	Check to see if set to 'Protocol error' Check to see if set to <u>'Conditional information element</u> error <u>ASN.1 violation and encoding error</u> '			

## UTRAN MOBILITY INFORMATION FAILURE (Step 11)

Information Element	Value/remark				
Failure Cause	Check to see if set to 'cell update occured'				

# CELL UPDATE (Step 5)

The same message found in Annex A shall be transmitted by the UE on the uplink CCCH, with the exception of the following IEs:

Information Element	Value/remark				
U-RNTI	Shall be the same as the original U-RNTI allocated				
- SRNC Identity	Check to see if set to '0000 0000 0001'B				
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'B				
Cell update cause	Check to see if set to 'periodical cell updating'				

CELL UPDATE (Step 9)

Information Element	Value/remark				
U-RNTI					
	Check to see if set to '0000 0000 0001'B				
	Check to see if set to '0000 0000 0000 0000 0011'B				
Cell update cause	Check to see if set to 'cell reselection'				

# CELL UPDATE CONFIRM (Step 6 and 10)

Use the same message sub-type as in Annex A.

# 8.3.3.2.5 Test Requirement

After step 2 the UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message, indicating the value "protocol error" in IE "failure cause" and also "<u>ASN.1 violation and encoding error</u><del>Conditional information element error</del>" in IE "protocol error information".

After step 4 the UE shall initiate a periodic cell updating procedure by transmitting CELL UPDATE message on the CCCH. In this message, the U-RNTI identity shall be set to the same value as assigned during the RRC connection establishment procedure.

After step 8 the UE shall initiate a cell updating procedure by transmitting CELL UPDATE message on the CCCH. In this message, the U-RNTI identity shall be set to the same value as assigned during the RRC connection establishment procedure.

After step 10 the UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message, indicating the value "cell update occured" in IE "failure cause".

# 8.3.4 Active set update in soft handover

- 8.3.4.1 Active set update in soft handover: Radio Link addition
- 8.3.4.1.1 Definition

# 8.3.4.1.2 Conformance requirement

Radio link addition is triggered in the network's RRC layer. The RRC entity in the network first configures the new radio link. Transmission and reception then begin immediately. This procedure is to update the active set of the connection between the UE and UTRAN. The UTRAN then transmits an ACTIVE SET UPDATE message to the UE. The UE configures layer 1 to begin reception for the additional radio link. After the UE receives confirmation from the physical layer in the UE, an ACTIVE SET UPDATE COMPLETE message is sent to the UTRAN.

## Reference

3GPP TS 25.331 clause 8.3.4

## 8.3.4.1.3 Test purpose

To confirm that the UE continues to communicate with the SS on both the additional radio link and an already existing radio link after the radio link addition.

## 8.3.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Celland 2 is are active

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> <u>CS-CELL_DCH_Initial (state 6-1) or</u> <u>PS-CELL_DCH_Initial (state 6-3)</u> in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE

# **Test Procedure**

## Table 8.3.4.1

Parameter	Unit	Cell 1				Cell 2			
		<u>T0</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T0</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>
UTRA RF Channel Number		<u>Ch. 1</u>				<u>Ch. 1</u>			
CPICH Ec	dBm/ 3.84 MHz	<u>-60</u>	<u>-60</u>	<u>OFF</u>	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>-60</u>	<u>OFF</u>

Table 8.3.4.1 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.
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Initially, the UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intrafrequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, Fthe SS begins to configure the new radio link to be added from cell 2 and-Tthen the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID). When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. After the UE confirms the synchronization with the new radio link from cell 2, tThe UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE eontinues to communicate with the SS on the both radio links. To test this condition, SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.1. UE shall not detect the DPCH from cell 1 but continue to communicate through the another DPCH from cell 2SS ceases the operations of all uplink and downlink DPCH from cell 1. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message. SS shall observe that the data communication for both DCCH and DTCH channels continue as per normal using cell 2, as if cell 1 is still operational. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1. UE shall detect DPCH from cell 1 and 2. And then SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.1. UE shall not detect the DPCH from cell 2 but continue to communicate through another DPCH from cell 1. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 1. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message.

Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			SS configures its downlink
			transmission power settings
			according to columns "T1" in
			Table 8.3.4.1. The UE is
			brought to CELL_DCH state in
			cell 1, after the successful
			establishment of a radio
			access bearer service.
2	$\rightarrow$	MEASUREMENT REPORT	The SS configures an
			additional radio link in the
			downlink direction from cell 2.
3	$\leftarrow$	ACTIVE SET UPDATE	SS transmits this message in
			cell 1 on downlink DCCH
			using AM RLC. The message
			includes IE "Radio Link
			Addition Information". (e.g.
			Downlink DPCH information
			and other optional parameters
			relevant for the additional
			radio links with Primary
			CPICH into used for the
			reference ID in cell 2)
4	$\rightarrow$	ACTIVE SET UPDATE COMPLETE	The UE shall configure a new
			radio link to cell 2, without
			interfering with existing
			connections on the radio link
_			in cell 1.
5			SS configures its downlink
			transmission power settings
1			according to columns "12" in
			I ADIE 8.3.4.1 SS CEASES All 1X
			and KX activities in cell 1. But
1			
1			
<u>6</u>	<u> </u>	<u>UE CAPABILITY ENQUIRY</u>	Use default message.

<u>7</u>	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message.
<u>8</u>	<u>←</u>	UE CAPABILITY INFORMATION CONFIRM	Use default message.
<u>9</u>			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.1
<u>10</u>			Wait 15 seconds and SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.1
<u>11</u>	<u>←</u>	UE CAPABILITY ENQUIRY	Use default message.
12	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message.
13	$\leftarrow$	UE CAPABILITY INFORMATION CONFIRM	Use default message.

Specific Message Content

MEASUREMENT REPORT

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
<ul> <li>Message authentication code</li> </ul>	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
<ul> <li>- RRC Message sequence number</li> </ul>	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
Measurement identity	<u>1</u>
Measured Results	
<ul> <li>Intra-frequency measured results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	<u>0000 0000 0000 0000 0000 0000 0010</u>
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Checked that this IE is present
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>150</u>
- CPICH Ec/NO	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

ACTIVE SET UPDATE

The message to be used in this test is defined in the default message content <u>Annex A</u>elause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2150
- Downlink DPCH info for each RL	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	P-CPICH can be used.
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference
	<del>chips</del>
	Not Present
DL channelisation code	This IE is repeated for all existing downlink DPCHs
	allocated to the UE
	Not Present
	<del>512</del>
Code Number	For each DPCH, assign the same code number in the
	current code given in cell 1.
	Not Present
- TPC Combination Index	θ
	Not Present
— - Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present
Radio link removal information	Not Present

# 8.3.4.1.5 Test requirement

# After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall configures a new radio link to cell.2, with the connection on the old radio link in cell 1 remaining operational and unaffected. It shall-transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC to acknowledge the completion of the active set additional procedure.

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After step 46 the <u>UESS</u> shall <u>transmit a UE CAPABILITY INFORMATION message</u>continue to communicate with the <u>UE using the radio links added to the UE from cell 2</u>.

After step 11 the UE shall transmit a UE CAPABILITY INFORMATION message.

# 8.3.4.2 Active set update in soft handover: Radio Link removal

8.3.4.2.1 Definition

# 8.3.4.2.2 Conformance requirement

This procedure is to update the active set of the connections between the UE and the UTRAN after the UTRAN has commanded a removal of a radio link from the current active set. The UTRAN RRC transmits an ACTIVE SET UPDATE message to the UE RRC. The UE RRC requests UE L1 to terminate transmission and reception of the radio link to be removed. The UE shall continue to communicate normally with the UTRAN using the new active set, without losing the connection link. After this the UE acknowledges the radio link removal by sending an ACTIVE SET UPDATE COMPLETE message to the UTRAN on DCCH using AM RLC.

# Reference

3GPP TS 25.331 clause 8.3.4

# 8.3.4.2.3 Test purpose

To confirm that the UE continues to communicate with the SS on the remaining radio link after radio link removal on the active set.

# 8.3.4.2.4 Method of test

### **Initial Condition**

System Simulator: 2 cells - both Cell 1 and Cell 2 are active

UE: <u>CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10)</u> <u>CS-CELL_DCH_Initial (state 6-1) or</u> <u>PS-CELL_DCH_Initial (state 6-3)</u>-in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE

**Test Procedure** 

Table 8.3.4.2

Parameter	<u>Unit</u>	Cell 1				Cell 2			
		<u>T0</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T0</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>
UTRA RF Channel Number		<u>Ch. 1</u>				<u>Ch. 1</u>			
CPICH Ec	<u>dBm</u> /3. <mark>84MHz</mark>	<u>-60</u>	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>-60</u>	<u>OFF</u>

Table 8.3.4.2 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE establishes a radio access bearer service in the CELL_DCH state in cell 1. <u>SS configures</u> <u>its downlink transmission power settings according to columns "T1" in Table 8.3.4.2. UE shall be triggered to transmit</u> <u>a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS begins to configure the new radio link to be added from cell 2 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID). When the UE receives this</u>

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message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.2. UE shall transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 1 according to IE "Intra-frequency event identity", which is set to '1b' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT REPORT message is received, the SS remove the radio link from cell 1 and then This is followed by a radio link addition procedure in cell 2. SS then transmits an ACTIVE SET UPDATE message, which includes IE "Radio Link Removal Information" and specifying the P-CPICH information of the cell to be removed. When the UE receives this message, the UE RRC entity shall request UE L1 entity to terminate transmission and reception of the radio link from cell 1. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE shall continue to communicate with the SS on the remained radio link in cell 2. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY INFORMATION message. Then SS transmits a UE CAPABILITY INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.2 so as to generate a radio link failure condition. The UE shall detect the radio link failure and transmit a CELL UPDATE message to re-establish an RRC CONNECTION.

# Expected sequence

Step	Direction UE SS	Message	Comment
1			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.2
2	$\rightarrow$	MEASUREMENT REPORT	
3	£	ACTIVE SET UPDATE	SS transmits this message in cell 1 on downlink DCCH using AM RLC. The message includes IE "Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID in cell 2)
<u>4</u>	<u>→</u>	ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link to cell 2, without interfering with existing connections on the radio link in cell 1.
4 <u>5</u>			SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.2The UE is in the CELL_DCH state in cell 1. SS executes step 1 to 3 of test 8.3.4.1, and the UE shall update the active set to contain cell 1 and cell 2 after the radio link addition procedure.
6	$\rightarrow$	MEASUREMENT REPORT	
27	÷	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE "Radio Link Removal Information".
<u>8</u> 3	→	ACTIVE SET UPDATE COMPLETE	The UE shall remove the radio link associated with cell 1.
<u>9</u> 4	<u></u>	UE CAPABILITY ENQUIRY	Use default message. The SS stops transmission on the downlink direction from cell 1 and the UE shall continue to communicate on the remaining radio link in cell 2.
<u>10</u>	$\rightarrow$	UE CAPABILITY INFORMATION	Use default message.
<u>11</u>	$\leftarrow$	UE CAPABILITY INFORMATION CONFIRM	Use default message.
<u>12</u>			SS configures its downlink transmission power settings according to columns "T3" in Table 8.3.4.2
<u>13</u>		CELL UPDATE	UE sends this message in cell <u>1.</u>

Specific Message Contents

# MEASUREMENT REPORT (Step 2)

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
<ul> <li>Message authentication code</li> </ul>	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
<ul> <li>RRC Message sequence number</li> </ul>	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results</li> </ul>	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Checked that this IE is present
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>150</u>
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

# ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in Annex.A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
<ul> <li>Primary CPICH Info</li> </ul>	
<ul> <li>Primary Scrambling Code</li> </ul>	<u>150</u>
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference

MEASUREMENT REPORT (Step 6)

Information Element	Value/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
<ul> <li>Message authentication code</li> </ul>	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
<ul> <li>- RRC Message sequence number</li> </ul>	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
Measurement identity	<u>1</u>
Measured Results	
<ul> <li>Intra-frequency measured results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	<u>0000 0000 0000 0000 0000 0000 0001</u>
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Checked that this IE is present
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>100</u>
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

# ACTIVE SET UPDATE (Step 7)

The message to be used in this test is the same as the message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	Not Present
Radio link removal information - Primary CPICH info	1 radio link to be removed
- Primary scrambling code	Set to the same P-CPICH scrambling code assigned for cell 1

# CELL UPDATE (Step 13)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark			
Cell Update Cause	"radio link failure"			

# 8.3.4.2.5 Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC to acknowledge the completion of the active set additional procedure.

After step 5 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step <u>7</u><del>2</del> the UE shall remove the radio link from cell 1 and it shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC.

After step <u>310</u> the UE shall <u>transmit a UE CAPABILITY INFORMATION message</u>continue to communicate on the remaining radio link from cell 2.

After step 12 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

# 8.3.4.3 Active set update in soft handover: Combined radio link addition and removal (active set is not full)

8.3.4.3.1 Definition

# 8.3.4.3.2 Conformance requirement

When radio links are to be replaced, the UTRAN RRC first configures the UTRAN L1 to activate the radio link(s) that are being added. The UTRAN RRC then transmits an ACTIVE SET UPDATE message to the UE RRC, which shall configure the UE L1 to terminate transmission and reception on the removed radio link(s) and begin transmission and reception on the added radio link(s). At the completion of the reconfiguration of radio links, the UE shall acknowledge the replacement with an ACTIVE SET UPDATE COMPLETE message.

# Reference

3GPP TS 25.331 clause 8.3.4

# 8.3.4.3.3 Test purpose

To confirm that the UE continues to communicate with the SS on the added radio link and removes radio link which exists prior to the execution of active set update procedure.

# 8.3.4.3.4 Method of test

Initial Condition

System Simulator: 2 cells- Both Cell 1 and Cell 2 are active

UE: <u>CS-DCCH+DTCH_DCH (state 6-9) or PS-DCCH+DTCH_DCH (state 6-10)</u> <u>CS-CELL_DCH_Initial (state 6-1) or</u> <u>PS-CELL_DCH_Initial (state 6-3)-</u>in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE [Active set is not full.]

Test Procedure

Parameter	Unit	Cell 1			Cell 2			
		<u>T0</u>	<u>T1</u>	<u>T2</u>	<u>T0</u>	<u>T1</u>	<u>T2</u>	
UTRA RF Channel Number		<u>Ch. 1</u>			<u>Ch. 1</u>			
<u>CPICH Ec</u>	<u>dBm</u> /3. 84MHz	<u>-60</u>	<u>-60</u>	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>OFF</u>	

# Table 8.3.4.3

Table 8.3.4.3 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. <u>SS configures its downlink transmission</u> power settings according to columns "T1" in Table 8.3.4.3. UE shall be triggered to transmit a MEASUREMENT <u>REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event</u> identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. After the MEASUREMENT <u>REPORT message is transmitted</u>received, the SS begins to configure the new radio link to be added from cell 2 and then the SS transmits to the UE in cell 1 an ACTIVE SET UPDATE message <u>SS begin to configure the new radio link</u> in cell 2. Then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC. The message-which includes IE "Radio Link Addition Information" and IE "Radio Link Removal Information", indicating

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the removal of cell 1 and addition of cell 2 into the active set, on DCCH using AM RLC. When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links and then the UE removes the radio link specified in an ACTIVE SET UPDATE message. The UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. SS removes the radio link in cell 1. When the UE receives this message, the UE RRC shall terminate the transmission and reception of the removed radio link in cell 1 and then configures layer 1 to begin transmission and reception in cell 2. After the UE received confirmations from the physical layer regarding the update of active set, it transmits an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to the SS. The UE shall continue to communicate with the SS on the added radio link in cell 2. When SS receives ACTIVE SET UPDATE COMPLETE message, it verifies that the UE has ceased any uplink transmission in cell 1. SS shall transmit a UE CAPABILITY ENQUIRY message to confirm that the UE can respond this message through the DPCH in cell 2. The UE shall transmit a UE CAPABILITY ENQUIRY message. SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.3 so as to generate a radio link failure condition. The UE shall detect the radio link failure and transmit a CELL UPDATE message to re-establish an RRC CONNECTION.

### Expected sequence

St	ер	Direction		Direction Message		Message	Comment
	-	UE	SS				
	1				SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.3The UE is in the CELL_DCH state in cell 1		
2	2	-	<u>≯</u>	MEASUREMENT REPORT	The SS configures an additional radio link in cell 2, starts the transmission and reception of data in cell 2.		
3	3	•	÷	ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information" for cell 2 and IE "Radio Link Removal Information" for cell 1.		
2	4	-	<b>&gt;</b>	ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link in cell 2 and removes the old radio link in cell 1.		
Ę	ō	<u> </u>	<u>&lt;</u>	<u>UE CAPABILITY ENQUIRY</u>	Use default message. The SS removes the radio link from cell 1 and the UE shall continue to communicate on the added radio link in cell 2, and not transmit any data in cell 1.		
6	<u>6</u>		<u>&gt;</u>	UE CAPABILITY INFORMATION	Use default message.		
7	7	•	÷	UE CAPABILITY INFORMATION CONFIRM	Use default message.		
<u>8</u>	3				SS configures its downlink transmission power settings according to columns "T2" in Table 8.3.4.3		
9	9	-	<del>)</del>	CELL UPDATE			

Specific Message Content

# MEASUREMENT REPORT (Step 2)

Information Element	Value/remark
Magazara Tura	valae/remark
Message Type	
Integrity check info	The presence of this IE is dependent on IXIT statements
	in TS 34.123-2. If integrity protection is indicated to be
	active, this IE shall be present with the values of the sub
	IEs as stated below. Else, this IE and the sub-IEs shall be
	absent.
- Message authentication code	This IE is checked to see if it is present. The value is
	compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is
	used by SS to compute the XMAC-I value.
Measurement identity	1
Measured Results	
<ul> <li>Intra-frequency measured results</li> </ul>	
<ul> <li>Cell measured results</li> </ul>	
- Cell Identity	<u>0000 0000 0000 0000 0000 0000 0010</u>
<ul> <li>SFN-SFN observed time difference</li> </ul>	Checked that this IE is absent
<ul> <li>Cell synchronisation information</li> </ul>	Checked that this IE is present
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	<u>150</u>
- CPICH Ec/N0	Checked that this IE is absent
- CPICH RSCP	Checked that this IE is present
- Pathloss	Checked that this IE is absent
Measured results on RACH	Checked that this IE is absent
Additional measured results	Checked that this IE is absent
Event results	Checked that this IE is absent

# ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in <u>Annex Athe default message content clause</u>, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as assigned for cell 2
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
—- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference0
	<del>chips</del>
	Not Present
	This IE is repeated for all existing downlink DPCHs
<ul> <li>Secondary scrambling code</li> </ul>	allocated to the UE
<ul> <li></li></ul>	Not Present
	<del>512</del>
	For each DPCH, assign the same code number in the
	current code given in cell 2.
	Not Present
	θ
<ul> <li>Close loop timing adjustment mode</li> </ul>	Not Present
	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present
Radio link removal information	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	
	Set to same code as assigned as for cell 1

### CELL UPDATE (Step 9)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in Annex A with the following exceptions:

Information Element	Value/remark
Cell Update Cause	"radio link failure"

# 8.3.4.3.5 Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 2. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4<u>5</u> the UE shall <u>a UE CAPABILITY INFORMATION message</u>. continue to communicate on the added radio link in cell 2. SS monitors the uplink direction to confirm that no data are designated for reception in cell 1.

After step 8 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "radio link failure".

# 8.3.4.4 Active set update in soft handover: Invalid Configuration

- 8.3.4.4.1 Definition
- 8.3.4.4.2 Conformance requirement

If the UTRAN attempts to <u>addremove</u> a radio link <u>but the additional radio link is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information" that is not currently present in the UE's active set, the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC and maintain its current communication status with the radio links.</u>

# Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.4.3 Test purpose

To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC, <u>if the</u> received ACTIVE SET UPDATE message includes a radio link which is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information" following the reception of a message specifying the removal of a radio link unknown to the UE.

# 8.3.4.4.4 Method of test

# Initial Condition

System Simulator: 2 cells - Cell 1 is active, Celland 2 is are active.

UE: <u>CS-DCCH+DTCH DCH (state 6-9) or PS-DCCH+DTCH DCH (state 6-10)</u> <u>PS-CELL_DCH_Initial (state 6-3)</u> in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE. Paramet

UTRA Channel Nu<u>mber</u>

**CPICH Ec** 

dBm

3.84 MHz

# Test Procedure

er	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	
RF		<u>Ch. 1</u>		<u>Ch. 1</u>	

-75

-60

T1

<u>-60</u>

# Table 8.3.4.4

Table 8.3.4.4 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

-60

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. <u>SS configures its downlink transmission</u> power settings according to columns "T1" in Table 8.3.4.4. UE shall be triggered to transmit a MEASUREMENT <u>REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event</u> identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. <u>SS requests for a radio link addition</u> by executing the step 1 to 3 described in test case 8.3.4.1. The UE shall then include cell 2 into its active set and establish the transmission and reception capabilities related to cell 2. SS then transmits an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the same primary scrambling code in IE "Primary CPICH Info" of both IE"Radio Link Addition Information" and IE "Radio Link Removal Information"-<u>. This IE indicates that a cell with unknown P CPICH scrambling code be removed from the active set.</u> When the UE receives this message, it transmits an ACTIVE SET UPDATE FAILURE message which is set to "Invalid configuration" in IE "failure cause" on the uplink DCCH using AM RLC to the SS<del>, and continues to communicate on the existing radio links in cell 1 and cell 2</del>.

### Expected sequence

Step	Direction	Message	Comment
	UE SS		
1			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.4The UE is in the CELL_DCH state in cell 1.
2	<u></u>	MEASUREMENT REPORT	SS commands the UE to perform a radio link addition procedure by executing step 1 to 3 in test case 8.3.4.1. The UE shall respond accordingly. Both cell 1 and cell 2 shall be found in the active set maintained by the UE.
3	÷	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes the same primary scrambling code in IE"Primary CPICH Info" of both IE"Radio Link Addition Information" and IE "Radio Link Removal Information". This content of this IE indicates an unknown cell.
4	<i>→</i>	ACTIVE SET UPDATE FAILURE	The message shall state "Invalid configuration" in IE "failure cause". <del>UE shall</del> continue to communicate normally with both cells.

# Specific Message Contents

# ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	Set to same code as assigned for cell 2Not Present
- DPCH frame offset	Calculated value from COUNT-C-SFN frame difference
Radio link removal information	1 radio link to be removed
- Primary CPICH info	
<ul> <li>Primary scrambling code</li> </ul>	Set to same code as assigned for cell 2Set to an
	unknown scrambling code not assigned to any cells.

# ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark	
Integrity check info	Not Checked	
Failure cause	Check to see if it's set to 'Invalid configuration'	

# 8.3.4.4.5 Test requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message, setting "Invalid configuration" in IE "failure cause" and sent on the uplink DCCH using AM RLC.

After step 4 the UE shall continue to communicate on the radio links for both cell 1 and cell 2.

- 8.3.4.5 Active set update in soft handover: <u>Reception of an ACTIVE SET UPDATE</u> <u>message in wrong state</u>Combined radio link addition and removal (active set is full)
- 8.3.4.5.1 Definition

# 8.3.4.5.2 Conformance requirement

If the UE is in another state than CELL_DCH state upon reception of the ACTIVE SET UPDATE message, the UE shall transmit an ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC.

When the UE active set is full, the UE shall first remove the old radio link and then add the new radio link, after it receives an ACTIVE SET UPDATE message for the combined radio link addition and removal.

# Reference

3GPP TS 25.331 clause 8.3.4

# 8.3.4.5.3 Test purpose

To confirm that the UE removes one of existing radio links, which is indicated in an ACTIVE SET UPDATE message and continues to communicate on the added radio linktransmit an ACTIVE SET UPDATE FAILURE message whenit receives an ACTIVE SET UPDATE message in any state other then CELL_DCH.

# 8.3.4.5.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.

UE: PS-DCCH+DTCH_FACH (state 6-11) in cell 1 as specified in clause 7.4 of TS 34.108.

System Simulator: 3 cells Cell 1, Cell 2, and Cell 3 are all active

UE: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 and cell 2 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE (The assumed maximum number for active set is 2.)

#### **Test Procedure**

# Table 8.3.4.5

Parameter	Unit	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
<u>UTRA RF</u> <u>Channel</u> <u>Number</u>		<u>Ch. 1</u>		<u>Ch. 1</u>	
<u>CPICH Ec</u>	<u>dBm/</u> 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>-60</u>

Table 8.3.4.5 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

At the start of the test, the UE establishes a radio access bearer service in the CELL FACH state in cell 1. SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.2. SS begins to configure the new radio link to be added from cell 2 and then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE "Radio Link Addition Information" indicating the addition of cell 2 into the active set. When the UE receives this message, UE shall transmit ACTIVE SET UPDATE FAILURE message, with the IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state", on the uplink DCCH using AM RLC The UE establishes a radio access bearer in the CELL_DCH state in cell 1 and cell 2. The SS configures the new radio link in cell 3 and sends an ACTIVE SET UPDATE message on DCCH using AM. This message includes IE "Radio Link Addition Information" indicating cell 3 to be added into the active set, and IE "Radio Link Removal Information" indicating the removal of cell 1 from the active set. When the UE receives this message, it shall not report a failure but firstly removes the indicated radio link and then adds the new radio link. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message on the DCCH using AM RLC to the SS and continues to communicate with the SS on the added radio link and the remaining old radio link.

# Expected sequence

Step	Direction	Message	Comment
_	UE SS	_	
1			<u>SS configures its downlink</u> <u>transmission power settings</u> <u>according to columns "T1" in</u> <u>Table 8.3.4.5</u> The UE is in the <u>CELL_DCH state in cell 1 and</u> <u>cell 2</u> .
2		Void	The SS configures an new radio link in cell 3, and starts reception and transmission using cell 3.
3	÷	ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information"-and IE "Radio Link Removal Information". The contents of the IE dictate the addition of cell 3 into the active set and removal of cell 1 from it.
4	<i>→</i>	ACTIVE SET UPDATE FAILURECOMPLETE	IE "failure cause" set to the cause value "protocol error" and includes the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state". The UE shall configure a new radio link in cell 3 and removes the old radio link in cell 1.
5			The SS removes the radio link in cell 1. The UE shall continue to communicate on the added radio link in cell 3 and also the existing radio link in cell 2.

# Specific Message Content

# ACTIVE SET UPDATE

The message to be used in this test is defined in Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
<ul> <li>Primary Scrambling Code</li> </ul>	<u>150</u>
<ul> <li>Downlink DPCH info for each RL</li> </ul>	
<ul> <li>DPCH frame offset</li> </ul>	<u>0</u>

# ACTIVE SET UPDATE

The message to be used in this test case is identical to the same message sub type found in Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
Primary Scrambling Code	Set to same code as assigned for cell 3
Downlink DPCH info for each RL	
<ul> <li>Primary CPICH usage for channel estimation</li> </ul>	P-CPICH can be used.
DPCH frame offset	<del>0 chips</del>
	Not Present
	This IE is repeated for all existing downlink DPCHs
	allocated to the UE
<ul> <li>Secondary scrambling code</li> </ul>	Not Present
- Spreading factor	<del>512</del>
	For each DPCH, assign the same code number in the
	current code given in cell 3.
<ul> <li>Scrambling code change</li> </ul>	Not Present
	θ
SSDT Cell Identity	Not Present
——- Close loop timing adjustment mode	Not Present
	Not Present
<ul> <li>SCCPCH information for FACH</li> </ul>	Not Present
Radio link removal information	
- Primary CPICH Info	
	Set to same code assigned as for cell 1

# 8.3.4.5.5 Test requirement

After step 1, the UE shall not transmit MEASUREMENT REPORT message.

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value " Message not compatible with receiver state " shall be set in IE "Protocol Error Information".

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 3. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4 the UE shall continue to communicate on the added radio link in cell 3 and on the existing old radio link in cell 2. It shall cease all transmission to cell 1.

8.3.4.6 Void

# 8.3.4.7 Active set update in soft handover: Invalid Message Reception

8.3.4.7.1 Definition

### 8.3.4.7.2 Conformance Requirement

The UE shall keep its old configuration when the UE receives an ACTIVE SET UPDATE message, which <u>does not</u> <u>include any IEs except IE "Message Type"</u> omits a conditional IE. and It shall transmit an ACTIVE SET UPDATE FAILURE message which set value "protocol error" in IE "failure cause" and also value "<u>ASN.1 violation or encoding</u> <u>errorConditional information element error</u>" in IE "Protocol error cause".

Reference

3GPP TS 25.331 clause 8.3.4

### 8.3.4.7.3 Test Purpose

To confirm that the UE retains its active set list <u>and transmits an ACTIVE SET UPDATE FAILURE message</u> when it receives an <u>invalid</u> ACTIVE SET UPDATE message, with a conditional IE missing in the message.

# 8.3.4.7.4 Method of test

# Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active.

UE: <u>CS-DCCH+DTCH_DCH</u> (state 6-9) or <u>PS-DCCH+DTCH_DCH</u> (state 6-10) <u>CS-CELL_DCH_Initial</u> (state 6-1) or <u>PS-CELL_DCH_Initial</u> (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE (Integrity protection algorithm is not applied at the start of test)

# **Test Procedure**

Table 8.3.4.7

Parameter	<u>Unit</u>	Cell 1		Cell 2	
		<u>T0</u>	<u>T1</u>	<u>T0</u>	<u>T1</u>
<u>UTRA RF</u> <u>Channel</u> <u>Number</u>		<u>Ch. 1</u>		<u>Ch. 1</u>	
<u>CPICH Ec</u>	dBm/ 3.84 MHz	<u>-60</u>	<u>-75</u>	<u>-60</u>	<u>-60</u>

Table 8.3.4.7 illustrates the downlink power to be applied for the 2 cells at various time instants of the test execution.

The UE establishes a radio access bearer in CELL_DCH in cell 1. <u>SS configures its downlink transmission power</u> settings according to columns "T1" in Table 8.3.4.7. UE shall be triggered to transmit a MEASUREMENT REPORT message which includes the primary scrambling code for cell 2 according to IE "Intra-frequency event identity", which is set to '1a' in the SYSTEM INFORMATION BLOCK TYPE 11. <u>SS requests that cell 2 be added into the active set by</u> performing step 1 to 3 described in test cases 8.3.4.1. The UE shall react accordingly and incorporate cell 2 into its active set. SS transmits an ACTIVE SET UPDATE message which does not include any IEs except IE "Message <u>Type</u>", with both IE "Integrity check info" and IE "Integrity protection mode info" present in the message. This message also commands the starting of integrity mode protection. However, the IE "integrity protection initialisation number" is omitted. The UE shall detect that it has received an invalid message. <u>The UEI</u> shall then transmitsend an ACTIVE SET UPDATE FAILURE message, stating the reason "<u>ASN.1 violation or encoding error</u>Conditional information element error" in the IE "Protocol error information". <u>The UE shall not remove cell 1 from its current active set</u>.

# **Expected Sequence**

Step	Direction	Message	Comment
-	UE SS		
1			SS configures its downlink transmission power settings according to columns "T1" in Table 8.3.4.7The UE is CELL_DCH state in cell 1.
2	2 $\rightarrow$ MEASUREMENT REPORT		SS executes step 1 to 3 in test case 8.3.4.1. The UE shall add cell 2 into its active set.
3	÷	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which <u>does not</u> include <u>s any IEs except IE</u> <u>"Message Type" "Integrity</u> <del>check info" and IE "Integrity</del> <del>protection mode info". This</del> message indicates that integrity mode protection be started but omit the IE <u>"integrity protection</u> initialisation number". The message also specifies that cell 1 be removed from the active set.
4	÷	ACTIVE SET UPDATE FAILURE	The message shall state "ASN.1 violation error or encoding errorconditional information element error" in IE "protocol error information". UE shall continue to communicate normally with both cells.

# Specific Message Contents

# ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in <u>Annex A</u>the default message content clause, with the following exceptions:

Information Element	Value/remark
All IEsIntegrity Check Info	Not Present
<ul> <li>Message authentication code</li> </ul>	Set to an arbitrary 32-bits string
	Set to an arbitrary integer between 0 and 15
Integrity Protection Mode Info	
<ul> <li>Integrity protection mode command</li> </ul>	Start
<ul> <li>Downlink integration protection activation info</li> </ul>	Not Present
<ul> <li>Integrity protection algorithm</li> </ul>	Standard UMTS Integrity Algorithm UIA1
<ul> <li>Integrity protection initialisation number</li> </ul>	Not Present
Radio link addition information	Not Present
Radio link removal information	
<ul> <li>Primary scrambling code</li> </ul>	Set to the P-CPICH scrambling code assigned to cell 1.

# ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	Check to see if it's set to 'ASN.1 violation or encoding
	errorConditional information element error

# 8.3.4.7.5 Test Requirement

After step 1 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC.

After step 3 the UE shall report a protocol error by transmitting the <u>an</u> ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "<u>ASN.1 violation or encoding error</u><del>Conditional information element error</del>" shall be set in IE "Protocol Error Information". The UE shall continue to communicate normally with the SS using cell 1 and cell 2.

# 8.3.5 Hard Handover

[Editor's note: This test is included in the "Physical channel reconfiguration", "Radio bearer establishment", "Radio bearer reconfiguration", "Radio bearer release" and "Transport channel reconfiguration".]

# 8.3.6 Inter-system hard handover from GSM to UTRAN

The content of this clause has been moved to 3GPP TS 51.010-1, clause 60.

# 8.3.7 Inter-system hard handover from UTRAN to GSM

Clauses 8.3.7 contains test procedures to be used for executing Inter-system Handover from UTRAN to GSM tests. Table 8.3.7-1 contains a summary of the different combinations of parameters being tested, together with a reference to the appropriate generic test procedure. If a test uses a parameter which the UE under test does not support, the test shall be skipped. Test cases in this clause are applicable only to the UE supporting both UTRAN and GSM. The test TEST USIM shall support service 27 to carry out these test cases.

		-	-		
From	То	State of call	Ref. clause	Exec counter	Remark
UTRAN AMR	GSM AMR	U10	8.3.7.1	1	call active
(conversational/speech/					state
uplink:12.2 DL:12.2 kbps/CS					
RAB +					
uplink:3.4 DL3.4 kbps SRBS)					
UTRAN AMR	GSM EFR	U10	8.3.7.1	2	call active
(conversational/speech/					state
uplink:12.2 DL:12.2 kbps/CS					
RAB +					
uplink:3.4 DL3.4 kbps SRBS)					
UTRAN AMR	GSM FR	U10	8.3.7.1	3	call active
(conversational/speech/					state
uplink:12.2 DL:12.2 kbps/CS					
RAB +					
uplink:3.4 DL3.4 kbps SRBS)					
UTRAN AMR	GSM HR	U10	8.3.7.1	4	call active
(conversational/speech/					state
uplink:12.2 DL:12.2 kbps/CS					
RAB +					
uplink:3.4 DL3.4 kbps SRBS)					
UTRAN	GSM	U10	8.3.7.2	1	Same data
(Streaming/unknown/	14.4 kbps CS data				rate
uplink:14.4 DL:14.4 kbps/CS	·				
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					
UTRAN	GSM	U10	8.3.7.2	2	Same data
(Streaming/unknown/	28.8 kbps CS data				rate
uplink:28.8 DL:28.8 kbps/CS					
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					
UTRAN	GSM	U10	8.3.7.2	3	Same data
(Streaming/unknown/	57.6 kbps CS data				rate
uplink:57.6 DL:57.6 kbps/CS					
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					
UTRAN	GSM	U10	8.3.7.3	1	Data rate
(Streaming/unknown/	14.4 kbps CS data				down grading
uplink:28.8 DL:28.8 kbps/CS					
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					
UTRAN	GSM	U10	8.3.7.3	2	Data rate
(Streaming/unknown/	14.4 kbps CS data				down grading
uplink:57.6 DL:57.6 kbps/CS					
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					-
UTRAN	GSM	U10	8.3.7.3	3	Data rate
(Streaming/unknown/	28.8 kbps CS data				down grading
uplink:57.6 DL:57.6 kbps/CS					
RAB +					
uplink:3.4 DL:3.4 kbps SRBS)					
	GSM FR	U1	8.3.7.4	1	During call
(conversational/speech/					establishment
uplink:12.2 DL:12.2 kbps/CS					
RAB +					
uplink:3.4 DL3.4 kbps SRBS)	001455				
	GSMFR	U10	8.3.7.5	1	tailure case
(conversational/speech/		1			
upiink:12.2 DL:12.2 Kbps/CS		1			
KAD +		1	1		
	1	1	1	1	

# Table 8.3.7-1

# 8.3.7.1 Inter system handover from UTRAN/To GSM/Speech/Success

# 8.3.7.1.1 Definition

# 8.3.7.1.2 Conformance requirement

When the UE receives an HANDOVER FROM UTRAN COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.
- NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of the present document.
- NOTE 2: The release of the UMTS radio resources is initiated by the other system.
- NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

### Reference(s)

TS 25.331 clause 8.3.7.3.

### 8.3.7.1.3 Test purpose

To test that the UE supporting both GSM and UTRAN handovers from a UTRAN serving cell to the indicated channel of GSM target cell when the UE is in the speech call active state and receives an HANDOVER FROM UTRAN COMMAND.

### 8.3.7.1.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 2.

UE : CC State U10 in cell 1

### Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM ARM,
- UE supports GSM EFR,
- UE supports GSM HR,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

### Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

# Test Procedure

The SS starts the UTRAN cell and brings the UE into call active state (CC state U10) with AMR. The SS starts GSM cell and configures a traffic channel, then sends HANDOVER FROM UTRAN COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS through GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum four times, each time with different target channel in the GSM cell.

# Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, 4, depending on the PIXIT parameters.

Step	Direction	Message	Comments
	UE SS		
1	UE		The SS bring the UE into UTRAN U10 state in cell 1
2	SS		The SS configures cell 2 as a GSM cell with a traffic
			channel:
			for GSM AMR ( $M = 1$ ); or
			for GSM EFR (M = 2); or
			for GSM FR ( $M = 3$ ); or
			for GSM HR (M = 4).
3	<ul><li>←</li></ul>	HANDOVER FROM UTRAN	Send on cell 1 (UTRAN cell) and the message indicates:
		COMMAND-GSM	the target channel for GSM AMR $(M = 1)$ ; or
			the target channel for GSM EFR ( $M = 2$ ); or
			the target channel for GSM FR ( $M = 3$ ); or
			the target channel for GSM HR (M = 4).
4	UE		The UE accepts the handover command and switches to
			the GSM traffic channel specified in the HANDOVER
			FROM UTRAN COMMAND-GSM
5	$\rightarrow$	HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2
			(GSM cell) It implies that the UE has switched to GSM
	,		cell.
6	→	HANDOVER ACCESS	
7	$\rightarrow$	HANDOVER ACCESS	
8	$\rightarrow$	HANDOVER ACCESS	
9	←	PHYSICAL INFORMATION	
10	$\rightarrow$	SABM	
11	←	UA	
12	$\rightarrow$	HANDOVER COMPLETE	The SS receives the message on the traffic channel of
			GSM cell.

# Specific message contents

For execution:

# I HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 3

For execution 2:

# HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

### HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 2

For execution 3:

#### HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- Message sequence number	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE system	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

For execution 4:

#### HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE system	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 4 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

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# 8.3.7.1.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

# 8.3.7.2 Inter system handover from UTRAN/To GSM/Data/Same data rate/Success

8.3.7.2.1 Definition

# 8.3.7.2.2 Conformance requirement

When the UE receives an HANDOVER FROM UTRAN COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.
- NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of the present document.
- NOTE 2: The release of the UMTS radio resources is initiated by the other system.
- NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

### Reference(s)

TS 25.331 Clause 8.3.7.3.

### 8.3.7.2.3 Test purpose

To test that the UE handovers to the indicated channel of same data rate in the GSM target cell when it is in the data call active state in the UTRAN serving cell and receives an HANDOVER FROM UTRAN COMMAND.

### 8.3.7.2.4 Method of test

### Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 or clause 26.13.1.3 (for HSCSD) shall be referenced for the default parameters of cell 2.

### UE : CC State U10 in cell 1

# Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports UTRAN Streaming/unknown/uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports UTRAN Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports UTRAN Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),

- UE supports GSM 28.8 kbps data (HSCSD or enhanced circuit switched full rate traffic channel for 28.8 kbit/s user date (E-TCH/F28.8)),
- UE supports GSM 57.6 kbps data,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

# Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

# Test Procedure

The SS starts the UTRAN cell and brings the UE into data call active state (CC state U10) with a suitable configuration (e.g. Streaming/unknown/uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs for M = 1). The SS starts GSM cell and configures a traffic channel (e.g. 14.4 kbps data channel for M = 1), then sends HANDOVER FROM UTRAN COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum three times, each time with different target channel in the GSM cell.

### Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction	Message	Comments
	UE SS	1	
1	UE		The SS bring the UE into UTRAN U10 state in cell 1, the configuration is: Streaming/unknown/uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 2); Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 3).
2	SS		The SS configures cell 2 as a GSM cell with a traffic channel: for GSM 14.4 kbps data (M = 1); or for GSM 28.8 kbps data (M = 2); or for GSM 57.6 kbps data (M = 3).
3	÷	HANDOVER FROM UTRAN COMMAND GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM 14.4 kbps data ( $M = 1$ ); or for GSM 28.8 kbps data ( $M = 2$ ); or for GSM 57.6 kbps data ( $M = 3$ ).
4	UE		The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	<b>→</b>	HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	$\rightarrow$	HANDOVER ACCESS	
7	$\rightarrow$	HANDOVER ACCESS	
8	$\rightarrow$	HANDOVER ACCESS	
9	+	PHYSICAL INFORMATION	
10	$\rightarrow$	SABM	
11	+	UA	
12	$\rightarrow$	HANDOVER COMPLETE	The SS receives the message on the traffic channel of GSM cell.

# Specific message contents

For execution :

# HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

If the UE supports 14.4 kbps single slot:

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = data, 14.5 kbit/s radio interface rate (14.4 kbit/s user data (TCH/F14.4))

If the UE supports HSCSD:

# HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 51.010, except that the Description of a multislot configuration supporting 14.4 kbps user data. For execution 2:

#### HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

If the UE supports enhanced circuit switched full rate traffic channel for 28.8 kbps user data:

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 51.010, except that the CHANNEL MODE IE is included with value = data, 29.0 kbit/s radio interface rate (28.8 kbit/s user data (E-TCH/F28.8))

# If the UE supports HSCSD:

# HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 51.010, except that the Description of a multislot configuration supporting 28.8 kbps user data. For execution 3:

#### HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

#### HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 51.010, except that the Description of a multislot configuration supporting 57.6 kbps user data.

### 8.3.7.2.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

# 8.3.7.3 Inter system handover from UTRAN/To GSM/Data/Data rate down grading/Success

- 8.3.7.3.1 Definition
- 8.3.7.3.2 Conformance requirement

When the UE receives an HANDOVER FROM UTRAN COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.
- NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of the present document.

NOTE 2: The release of the UMTS radio resources is initiated by the other system.

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NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

#### Reference(s)

TS 25.331 Clause 8.3.7.3.

### 8.3.7.3.3 Test purpose

To test that the UE handovers to the indicated channel of lower data rate in the GSM target cell when it is in the data call active state in the UTRAN serving cell and receives an HANDOVER FROM UTRAN COMMAND.

### 8.3.7.3.4 Method of test

#### Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 or clause 26.13.1.3 (for HSCSD) shall be referenced for the default parameters of cell 2.

#### UE: CC State U10 in cell 1

### Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports UTRAN Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports UTRAN Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs,
- UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),
- UE supports GSM 28.8 kbps data (HSCSD or enhanced circuit switched full rate traffic channel for 28.8 kbit/s user date (E-TCH/F28.8)),
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

#### Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

### Test Procedure

The SS starts the UTRAN cell and brings the UE into data call active state (CC state U10) with a suitable configuration (e.g. Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs for M = 1). The SS starts GSM cell and configures a traffic channel (e.g. 14.4 kbps data channel for M = 1), then sends HANDOVER FROM UTRAN COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum three times, each time with different target channel in the GSM cell.

# Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction	Message	Comments
	UE SS		
1	UE		The SS bring the UE into UTRAN U10 state in cell 1, the configuration is: Streaming/unknown/uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBs (for M = 2 and 3).
2	SS		The SS configures cell 2 as a GSM cell with a traffic channel: for GSM 14.4 kbps data (M = 1 and 2); or for GSM 28.8 kbps data (M = 3).
3	÷	HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM 14.4 kbps data (M = 1 and 2); or for GSM 28.8 kbps data (M = 3).
4	UE		The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	<i>→</i>	HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	$\rightarrow$	HANDOVER ACCESS	
7	$\rightarrow$	HANDOVER ACCESS	
8	$\rightarrow$	HANDOVER ACCESS	
9	←	PHYSICAL INFORMATION	
10	$\rightarrow$	SABM	
11	←	UA	
12	$\rightarrow$	HANDOVER COMPLETE	The SS receives the message on the traffic channel of GSM cell.

# Specific message contents

For execution 1:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution 2:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution 3:

Same as the message contents of clause 8.3.7.2 for M = 2.

8.3.7.3.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

# 8.3.7.4 Inter system handover from UTRAN/To GSM/Speech/Establishment/Success

8.3.7.4.1 Definition

### 8.3.7.4.2 Conformance requirement

When the UE receives an HANDOVER FROM UTRAN COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.
- NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of the present document.
- NOTE 2: The release of the UMTS radio resources is initiated by the other system.
- NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

#### Reference(s)

TS 25.331 Clause 8.3.7.3.

### 8.3.7.4.3 Test purpose

To test that the UE handovers to the indicated channel in the GSM target cell when it is in the call establishment phase in the UTRAN serving cell and receives an HANDOVER FROM UTRAN COMMAND.

### 8.3.7.4.4 Method of test

#### Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 2.

UE : CC State U1 in cell 1

### Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports UTRAN AMR,
- UE supports GSM FR,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

### Foreseen final state of the UE

The UE is in CC state U1 on cell 2.

### Test Procedure

The SS starts the UTRAN cell and the UE is triggered to initialise an MO speech call. During the call establishment phase, after the SS receives SETUP message the SS starts GSM cell and configures a dedicated channel, then sends the UE an HANDOVER FROM UTRAN COMMAND indicating the dedicated channel in the target GSM cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

# Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	U	E		To trigger the UE to initialise an MO call
2	$\rightarrow$		SETUP	U1
3	SS			The SS starts the GSM cell and configure a dedicated channel SDCCH.
4	÷		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the dedicated channel SDCCH.
5	U	E		The UE accepts the handover command and switches to the GSM dedicated channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
6		<b>&gt;</b>	HANDOVER ACCESS	The SS receives this burst on the dedicated channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
7	_	>	HANDOVER ACCESS	
8	_	Y	HANDOVER ACCESS	
9	_	<b>&gt;</b>	HANDOVER ACCESS	
10	<	÷	PHYSICAL INFORMATION	
11	_	$\rightarrow$	SABM	
12	€	<u></u>	UA	
13	-	<b>&gt;</b>	HANDOVER COMPLETE	The SS receives the message on the dedicated channel of GSM cell.

# Specific message contents

# HANDOVER FROM UTRAN COMMAND-GSM

Information Element	Value/remark
Message Type	
RRC transaction identifier	Arbitrarily selects one integer between 0 to 3
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
<ul> <li>RRC Message sequence number</li> </ul>	SS provides the value of this IE, from its internal counter.
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1512). The contents of the HANDOVER COMMAND see next table.

# HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 4 in clause 26.6.5.2 of GSM 51.010 version 8.2.0 Release 1999

# 8.3.7.4.5 Test requirement

At step 13 the SS shall receive HANDOVER COMPLETE message on the dedicated channel of the GSM cell.

# 8.3.7.5 Inter system handover from UTRAN/To GSM/Speech/Failure

# 8.3.7.5.1 Definition

# 8.3.7.5.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology, it shall

- resume the connection to UTRAN using the resources used before receiving the HANDOVER FROM UTRAN COMMAND message; and
- transmit the INTER-SYSTEM HANDOVER FAILURE message on uplink DCCH using AM RLC. When the successful delivery of the INTER-SYSTEM FAILURE message has been confirmed by RLC, the procedure ends.

#### Reference(s)

TS 25.331 Clause 8.3.7.5.

### 8.3.7.5.3 Test purpose

To test that the UE reactivates the old channel and transmits HANDOVER FROM UTRAN FAILURE message to the network on the old channel in UTRAN cell when it receives an HANDOVER FROM UTRAN COMMAND and the connection to GSM for handover can not be established.

# 8.3.7.5.4 Method of test

#### Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 clause 26.6.5.1 shall be referenced for the default parameters of cell 2.

### UE: CC State U10 in cell 1

### Related ICS/IXIT statement(s)

- UE supports both GSM and UTRAN Radio Access Technologies,
- UE supports GSM FR,
- UE supports UTRAN AMR,
- UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

### Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

# **Test Procedure**

The SS starts the UTRAN cell and brings the UE into call active state (CC state U10) with AMR. The SS starts GSM cell without activating any dedicated channel in the cell, then sends HANDOVER FROM UTRAN COMMAND indicating a dedicated channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The UE receives the command and configures itself accordingly but can not complete the handover. The SS checks that the handover is failed by checking that the UE transmits the HANDOVER FROM UTRAN FAILURE message to the SS in UTRAN cell.

# Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into UTRAN U10 state in cell 1
2	SS			The SS configures cell 2 as a GSM cell but without any traffic channel.
3	÷		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM FR which does not exist in the GSM cell.
4	U	Ξ		The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	) )	•	HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	$\rightarrow$	•	HANDOVER ACCESS	
7	$\rightarrow$	•	HANDOVER ACCESS	
8	$\rightarrow$	•	HANDOVER ACCESS	
n	$\rightarrow$	•	HANDOVER ACCESS	The last handover access burst before T3124 times out.
n+1	$\rightarrow$	•	HANDOVER FROM UTRAN FAILURE	The SS receives the message on the old channel of UTRAN cell.

### Specific message contents

Same as the message contents of clause 8.3.7.1 for M = 3.

# HANDOVER FROM UTRAN FAILURE

Information Element	Value/remark
Message Type	
RRC transaction identifier	Checked to see if it matches the same value used in the corresponding downlink HANDOVER FROM UTRAN COMMAND –GSM message
Integrity check info	The presence of this IE is dependent on IXIT statements in TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Inter-RAT handover failure	
-Inter-RAT handover failure cause	physical channel failure
Inter-system message	
- System type	GSM
- Frequency Band	GSM/DCS 1800 Band
- CHOICE GSM message	Single GSM message
- Message	Is its presence required, is for FFS

# 8.3.7.5.5 Test requirement

After step n+1 the SS shall receive HANDOVER FROM UTRAN FAILURE message on the old channel of the UTRAN cell.

# 8.3.8 Inter system cell reselection to UTRAN

[Editor's note: This test is FFS until R2000 core specification will be defined.]
# 8.3.9 Inter system cell reselection from UTRAN

[Editor's note: This test is FFS until R2000 core specification will be defined.]

# T1-020039

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identity RAI-6 is replaced with RAI-2.

- In order to avoid an initiation of a MM Location update procedure before the Routing Area Update procedure is initiated, the comments in step7 of the Expected sequence for the test procedure 1 and 2 is corrected.
- In relation to the above-mentioned correction, the initial conditions for the Test procedure 1 and 2 are corrected as follows.
- 2.4 For subclause 12.3.1.7 "PS detach / accepted / IMSI detach"
  - The comment in step14 of the Expected sequence is corrected. According to TS 23.060 clause 6.9.1.3.1 paragraph 1) and clause 6.9.3.2 paragraph 1), the update type in this step is "Combined RA/LA updating with IMSI attach".
  - The Related ICS/IXIT statement is corrected.

2.5 For subclause 12.3.1.6 "PS detach / accepted / PS/IMSI detach"

 The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.

2.6 For subclause 12.3.1.8 "PS detach / abnormal cases / change of cell into new routing area"

• The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.

2.7 For subclause 12.3.1.9 "PS detach / abnormal cases / PS detach procedure collision"

- The Related ICS/IXIT statement is corrected as follows because an essential statement is missing.
- 2.8 For subclause 12.4.2.3 "Combined routing area updating / RA only accepted"
  - The comments in step3 and step31 of the Expected sequence are corrected because the attach type "PS attach while IMSI attached" is missing.

2.9 For subclause 12.4.3.3 "Periodic routing area updating / no cell available / network mode I"

- In order to clarify the test scenario, the conformance requirement of this test case is corrected.
- The comment in the step12 of the Expected sequence is corrected because there is a case that TMSI status IE does not exist in ROUTING AREA UPDATE REQUEST message.
- The comments in step7 and 11 are corrected.

2.10 For subclause 12.2.2.7a "Combined PS attach / rejected / location area not allowed"

 MM location updating procedure is added after step 20 of the Expected sequence because a non-auto attach UE may perform a location updating procedure before PS attach procedure is initiated. 2.11 For subclause 12.2.2.9 "Combined PS attach / abnormal cases / PS detach procedure collision"

- The Related ICS/IXIT statement is modified as follows. After the UE receives a DETACH REQUEST message with detach type 'Re-attach not required', the UE can attempt to re-attach without user intervention.
- In relation to the above-mentioned introduction, the comment in step9 of the Expected sequence is corrected.

2.12 For subclause 12.4.2.7 "Combined routing area updating / abnormal cases / attempt counter check / procedure timeout"

- In order to clarify the test scenario, initial condition of the UE is corrected.
- MM location updating procedure is added to the test procedure. When the UE is in U2 NOT UPDATED and MM IDLE substate ATTEMPTING TO UPDATE, UE shall perform a MM Location Update procedure.
- In relation to the above-mentioned modification, MM location updating procedure is added after step23 of the Expected sequence.

2.13 For subclause 12.6.1.2 "Authentication rejected by the network"

- The Conformance requirement is corrected to reflect the appropriate clause of the core specification (TS24.008).
- The reference document is corrected.
- In order to clarify the test scenario, the Test procedure is corrected.
- In order to clarify the test scenario, the Expected sequence is corrected.
- In relation to the above-mentioned correction, the Test requirement is corrected.

2.14 For subclause 12.3.1.4 "PS detach / abnormal cases / GMM common procedure collision"

- The test procedure is corrected because an appropriate time for checking the requirement that the UE does not send anything in case of procedure collision would cause repeated DETACH REQUEST messages in the expected sequence.
- In relation to the correction for the Test procedure, the Expected sequence is corrected.
- In relation to the correction for the Test procedure, the Test requirement is corrected.

### 3. Corrections

#### 3.1 Technical correction for the each test case

3.1.1 For subclause 12.9.3 "Service Request / rejected / Illegal MS"

- A detach procedure, a GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step30 of the Expected sequence because this procedure is missing.
- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.
- DETACH REQUEST message in step13 of the Expected sequence is removed. The UE should not send DETACH REQUEST at power off if the UE earlier has

received SERVICE REJECT with cause "Illegal MS" as there is no GMM context to apply the detach on. The UE should not send any response at all.

3.1.2 For subclause 12.9.4 "Service Request / rejected / PS services not allowed"

- A detach procedure, a GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step30 of the Expected sequence because this procedure is missing.
- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.
- DETACH REQUEST message in step13 of the Expected sequence is removed. The UE should not send DETACH REQUEST at power off if the UE earlier has received SERVICE REJECT with cause "PS not allowed" as there is no GMM context to apply the detach on. The UE should not send any response at all.

3.1.3 For subclause 12.2.2.4 "Combined PS attach / rejected / IMSI invalid / illegal ME"

• The initial condition for the SS is corrected because a definition for cell C is missing.

3.1.4 For subclause 12.4.1.5 "Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes"

• The Test procedure is corrected in order to keep consistency with the decision in TSG-GERAN WG4 meeting #5 that GMM cause "Congestion" is selected for this test.

3.1.5 For subclause 12.9.6 "Service Request / rejected / PLMN not allowed"

- The comment in step16 of the Expected sequence is corrected.
- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

3.1.6 For subclause 12.3.2.1 "PS detach / re-attach not required / accepted"

• The comment in step7 of the Expected sequence is corrected because SS initiate a PS detach procedure in this test case.

3.1.7 For subclause 12.9.5 "Service Request / rejected / MS identity cannot be derived by the network"

- ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.
- A GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step15 of the Expected sequence because this procedure is missing.

3.1.8 For subclause 12.9.9 "Service Request / Abnormal cases / Routing area update procedure is triggered"

 ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.

	<ul> <li>A GMM common procedures (e.g. GMM authentication and ciphering procedure) and security mode control procedure are added after step14 of the Expected</li> </ul>
	sequence because this procedure is missing.
	3.1.9 For subclause 12.9.11 "Service Request / Abnormal cases / Service request procedure collision"
	ATTACH COMPLETE message is removed from the Expected sequence because P-TMSI signature IE is not included in the ATTACH ACCEPT message.
	3.1.10 For subclause 12.4.2.4 "Combined routing area updating / rejected / PLMN not allowed"
	In order to ensure the correct behaviour when the UE receive the GMM reject causes with equivalent PLMNs, conformance requirement, Method of test and test requirement are corrected.
	After receiving the GMM reject cause #11, the UE shall delete the equivalent PLMN list.
	3.1.11 For subclause 12.4.2.5b "Combined routing area updating / rejected / No Suitable Cells In Location Area."
	In order to ensure the correct behaviour when the UE receive the GMM reject causes with equivalent PLMNs, conformance requirement, Method of test and test requirement are corrected.
	After receiving the GMM reject cause #15, the equivalent PLMN list shall be maintained in the UE and the UE can attach to the equivalent PLMN.
	3.2 Editorial correction of the terminology
	"PICS" is replaced with "ICS".
	"GPRS" is replaced with "PS".
Consequences if % not approved:	Inconsistencies with the core specification and editorial mistakes are left.
Clauses affected: #	12.2.1.2, 12.2.1.3, 12.2.1.4, 12.2.1.5a, 12.2.1.5b, 12.2.1.6, 12.2.1.7, 12.2.2.4,
	12.2.2.5, 12.2.2.6, 12.2.2.7a, 12.2.2.7b, 12.2.2.8, 12.2.2.9, 12.3.1.4, 12.3.1.6, 12.3.1.7, 12.3.1.8, 12.3.1.9, 12.3.2.1, 12.3.2.2, 12.3.2.5, 12.3.2.6, 12.4.1.1
	12.4.1.2, 12.4.1.3, 12.4.1.4a, 12.4.1.4b, 12.4.1.5, 12.4.1.6, 12.4.1.7, 12.4.1.8,
	12.4.2.1, 12.4.2.2, 12.4.2.3, 12.4.2.4, 12.4.2.5a, 12.4.2.5b, 12.4.2.6, 12.4.2.7, 12.4.2.8, 12.4.2.9, 12.4.2.10, 12.4.3.3, 12.6.1.1, 12.6.1.2, 12.6.1.3.1, 12.6.1.3.2, 12.6.1.3.3, 12.8, 12.9.3, 12.9.4, 12.9.5, 12.9.6, 12.9.7b, 12.9.9, 12.9.11
Other specs ж affected:	Other core specifications       #         Test specifications       #         O&M Specifications       •
Other comments: #	Affects R99 and REL-4.

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

### 12.2.1.2 PS attach / rejected / IMSI invalid / illegal UE

- 12.2.1.2.1 Definition
- 12.2.1.2.2 Conformance requirement
  - 1) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.
  - 2) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 3) If the network rejects a PS attach procedure from the User Equipment with the cause 'Illegal UE', the User Equipment shall delete the LAI.

#### Reference

3GPP TS 24.008 clause 4.7.3.1.

### 12.2.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'illegal UE'.

#### 12.2.1.2.4 Method of test

### Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A with MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in

#### MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2).

All three cells are operating in network operation mode II (in case of UE operation mode A).

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No (only if mode C not supported)

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS rejects a PS attach with the cause value 'Illegal UE'. The SS checks that the UE does not perform PS attach in the same or another PLMN.

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## Expected Sequence

[	Step	Direction	Message	Comments
-		UE SS		The following messages are sent and shall be
				received on cell A.
	1	UE		The UE is set in UE operation mode C (see
	-			ICS).
	2	88		The SS is set in network operation mode II-and
				Set the cell type of cell A to the "Serving cell".
				Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Off cell".
	з	LIE		(note) The LIE is powered up or switched on and
	0	0L		initiates an attach (see ICS). Cell A is preferred
				by the UE.
	4	->	ATTACH REQUEST	Attach type = 'PS attach'
				P-TMSI-1 signature
				Routing area identity = RAI-1
-	5	<-	ATTACH REJECT	GMM cause = 'Illegal UE'.
				The following messages are sent and shall be
	6	SS		The SS deactivates cell A and activates cell
	-			B.Set the cell type of cell A to the "Off cell".
				Set the cell type of cell B to the "Serving cell".
	7	UE		(note) Cell B is preferred by the LIF
	8	UE		No ATTACH REQUEST sent to the SS
	-			(SS waits 30 seconds).
	9	UE		The UE initiates an attach by MMI or by AT
	10	UE		No ATTACH REQUEST sent to the SS
				(SS waits 30 seconds).
				The following messages are sent and shall be
	11	SS		The SS deactivates cell B and activates cell
	••	00		C.Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Serving cell".
	12	LIE		(note) Cell C is preferred by the LIF
	13	UE		No ATTACH REQUEST sent to the SS
				(SS waits 30 seconds).
	14	UE		The UE initiates an attach by MMI or by AT
	15	UE		No ATTACH REQUEST sent to the SS
				(SS waits 30 seconds).
	16	UE		If possible (see ICS) switch off is performed.
-	17			Utherwise the power is removed.
	18	UE	Registration on CS	See TS 34.108
			5	This is applied only for UE in UE operation
				mode A.
	19	UF		The UF initiates an attach (see PICSICS)
	20	->	ATTACH REQUEST	Attach type = 'PS attach'
	<b>.</b>			Mobile identity = IMSI
	21	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
				P-TMSI-1 signature
				Routing area identity = RAI-2
	22	->	ATTACH COMPLETE	The LIF is sufficient of the
	23	UE		I ne UE is switched off or power is removed
	24	->	DETACH REQUEST	Message not sent if power is removed.
			. –	Detach type = 'power switched off, PS detach'

#### NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

12.2.1.2.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, 10, 13 and 15, UE shall:

- not send the ATTACH REQUEST message to SS, even if there is an instruction of attach request from MMI or from AT command.

At step20, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

## 12.2.1.3 PS attach / rejected / IMSI invalid / PS services not allowed

12.2.1.3.1 Definition

### 12.2.1.3.2 Conformance requirement

- 1) If the network rejects a PS attach procedure from the User Equipment with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.
- 2) If the network rejects a PS attach procedure from the User Equipment with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

### Reference

3GPP TS 24.008 clause 4.7.3.1.

### 12.2.1.3.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PS services not allowed' (no valid PS-subscription for the IMSI).

### 12.2.1.3.4 Method of test

Initial condition

#### System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).

Both cells are operating in network operation mode II.

### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No

USIM removal possible without powering down Yes/No

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

### Test procedure

The SS rejects a normal attach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach in another PLMN.

Image: Construct of the second seco	Step	Direction	Message	Comments
1       SS       The SS activates cell A,Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)         2       UE       The UE is set in UE operation mode C (see ICS). If UE operation mode C of supported, goto step 17. The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.         4       ->       ATTACH REQUEST       Attach type = 'PS stach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RA-11 GMM cause = 'PS services not allowed'         5       <-				The following messages are sent and shall be received on cell A.
2       UE       UE       Integer of cell B to the "Of cell". (note)         3       UE       The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 17.         4       ->       ATTACH REQUEST       The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.         5       <-	1	SS		The SS activates cell A. Set the cell type of cell A to the "Serving cell".
2       UE       The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 17.         3       UE       The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.         4       ->       ATTACH REQUEST       Attach type = PS attach' Mobile identity = PAI11 GMM cause = PS services not allowed'         5       <-	0			Set the cell type of cell B to the "Off cell". (note)
3       UE       The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.         4       ->       ATTACH REQUEST       Attach type = 'PS attach' Mobile identity = P-TMSI-1         5       <	2	UE		ICS). If UE operation mode C not supported,
4       ->       ATTACH REQUEST       by the UE.         4       ->       ATTACH REQUEST       Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'PS services not allowed'         5       <-	3	UE		The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred
5       <-	4	->	ATTACH REQUEST	by the UE. Attach type = 'PS attach' Mobile identity = P-TMSI-1
5	F			P-TMSI-1 signature Routing area identity = RAI-1
6       SS       The SS deactivates cell A and activates cell         7       UE       Set the cell type of cell B to the "Serving cell". Set the cell type of cell B to the "Serving cell". Inotei         7       UE       Cell B is preferred by the UE. No ATTACH REQUEST sent to the SS (SS waits 30 seconds).         9       UE       If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise it possible (see ICS) switch off is performed. Otherwise it possible (see ICS) switch off is performed. Otherwise it possible (see ICS)         10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST         12       <-	3	<-		The following messages are sent and shall be received on cell B.
7       UE       Indial       Cell B is preferred by the UE.         8       UE       No ATTACH REQUEST sent to the SS (SS waits 30 seconds).         9       UE       If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise if possible (see ICS)         10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST         12       <-	6	SS		The SS deactivates cell A and activates cell B-Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell"
8       UE       No ATTACH REQUEST sent to the SS (SS waits 30 seconds).         9       UE       If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.         10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST         12        ATTACH ACCEPT         13       ->       ATTACH ACCEPT         14       UE       P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2         15       ->       DETACH REQUEST         16       The SC deactivates cell B and activates cell A-Set the cell type of cell A to the "Serving cell". Intote)         17       UE       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.         17       UE       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.	7	UE		(note) Cell B is preferred by the UE.
9       UE       If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise it possible (see ICS) switch off is performed. Otherwise it power is removed.         10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST       Attach type = 'PS attach' Mobile identity = IMSI         12       <-	8	UE		(SS waits 30 seconds).
10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST       Attach type = 'PS attach' Mobile identity = IMSI         12       <-	9	UE		If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is
10       UE       The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).         11       ->       ATTACH REQUEST       Attach type = 'PS attach'         12       <-				removed.
11       ->       ATTACH REQUEST       Attach type = 'PS attach'         12       <-	10	UE		The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see
12       <-	11	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
13       ->       ATTACH COMPLETE       Routing area identity = RAI-2         14       UE       The UE is switched off or power is removed (see ICS).         15       ->       DETACH REQUEST       Message not sent if power is removed. Detach type = 'power switched off, PS detach'         16       The SS deactivates cell B and activates cell A.Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)         17       UE       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.         JOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio"	12	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature
13       ->       ATTACH COMPLETE         14       UE       The UE is switched off or power is removed (see ICS).         15       ->       DETACH REQUEST         16       The SS deactivates cell B and activates cell A.Set the cell type of cell A to the "Serving cell".         17       UE       Set the cell type of cell B to the "Off cell". (note)         17       UE       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.				Routing area identity = RAI-2
15       ->       DETACH REQUEST       (see ICS). Message not sent if power is removed. Detach type = 'power switched off, PS detach'         16       The SS deactivates cell B and activates cell ASet the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)         17       UE       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.         JOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio	13 14	-> UE	ATTACH COMPLETE	The UE is switched off or power is removed
16       The SS deactivates cell B and activates cell A-Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)         17       UE         17       UE         17       UE         16       The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.         JOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio	15	->	DETACH REQUEST	(see ICS). Message not sent if power is removed.
17       UE       Cell". Set the cell type of cell B to the "Off cell". (note) The UE is set in UE operation mode A(see ICS) and the test is repeated from step 3 to step 15.         JOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio	16			The SS deactivates cell B and activates cell A.Set the cell type of cell A to the "Serving
ICS) and the test is repeated from step 3 to step 15. IOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio	17	UE		<u>cell".</u> <u>Set the cell type of cell B to the "Off cell".</u> (note) The UE is set in UE operation mode A(see
NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio	.,			ICS) and the test is repeated from step 3 to step 15.
	NOTE: T	he definitions	for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radio

### Specific message contents

None.

## 12.2.1.3.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step8, UE shall:

- not perform a PS attach procedure.

At step11, after the UE is switched on or a USIM is replaced, UE shall:

- perform the PS attach procedure.

### 12.2.1.4 PS attach / rejected / PLMN not allowed

12.2.1.4.1 Definition

#### 12.2.1.4.2 Conformance requirement

- 1) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall:
  - 1.1 not perform PS attach when switched on in the same routing area or location area.
  - 1.2 not perform PS attach when in the same PLMN and when that PLMN is not selected manually.
  - 1.3 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.4 store the PLMN in the 'forbidden PLMN' list.
- 2) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall perform PS attach when a new PLMN is entered.
- 3) If the network rejects a PS attach procedure from the User Equipment with the cause 'PLMN not allowed' and if after that the PLMN from which this rejection was received, is manually selected, the User Equipment shall perform a PS attach procedure.

#### Reference

3GPP TS 24.008 clause 4.7.3.1.

### 12.2.1.4.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PLMN not allowed'.

12.2.1.4.4 Method of test

12.2.1.4.4.1 Test procedure 1

Initial condition

System Simulator:

Four cells (not simultaneously activated), cell A in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell B in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell C in MCC1/MNC2/LAC2/RAC1 (RAI-9) and cell D in MCC2/MNC1/LAC1/RAC1 (RAI-2).

All four cells are operating in network operation mode II (in case of UE operation mode A). The PLMN of the four cells should NOT be that of the UE Home PLMN.

### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-8. UE is Idle Updated on cell A.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on button Yes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The SS rejects a PS attach with the cause value 'PLMN not allowed'. The SS checks that the UE does not perform PS attach if activated in the same routing area or location area and performs PS attach only when a new PLMN is entered.

Ste	əp	Direction	Message	Comments
	ľ	UE SS		
		SS		The following messages are sent and shall be
				received on cell A.
1		UE		The UE is set in UE operation mode C (see
				ICS).
2	2	SS		The SS is set in network operation mode II-and
				activates cell A.
				Set the cell type of cell A to the "Serving cell".
				Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Off cell".
				Set the cell type of cell D to the "Off cell".
				(note)
3	5	UE		The UE is powered up or switched on and
				initiates an attach (see ICS). Cell A is preferred
				by the UE.
4	-	->	ATTACH REQUEST	Attach type = 'PS attach'
				Mobile identity = $P - I MSI - 1$
				P-IMSI-1 signature
-				Routing area identity = RAI-8
5		<-	ATTACH REJECT	GIVINI CAUSE = PLIVIN NOT Allowed
0	)	UE		(SS weite 20 accords)
				The following meanages are cent and shall be
				received on cell R
7	,	LIF		The UE is switched off
8		SS		The SS deactivates cell A and activates cell
0	, 	00		B Set the cell type of cell A to the "Off cell"
				Set the cell type of cell B to the "Serving cell"
				(note)
9	)	UE		The UE is powered up or switched on.
10	0	ŬĒ		Cell B is preferred by the UE.
11	1	UE		No ATTACH REQUEST sent to SS
				(SS waits 30 seconds).
				The following messages are sent and shall be
				received on cell C.
12	2	SS		The SS deactivates cell B and activates cell
				G.Set the cell type of cell B to the "Off cell".
				Set the cell type of cell C to the "Serving cell".
				(note)
13	3	UE		Cell C is preferred by the UE.
14	4	UE		No ATTACH REQUEST sent to SS
				(SS waits 30 seconds).
				The following messages are sent and shall be
	_	~~		received on cell D.
15	b	55		Control of the coll type of coll C and activates cell
				Det the cell type of cell U to the "Uff cell".
				Det the cell type of cell D to the "Serving cell".
10	6			Cell D is preferred by the UE
17	7		Registration on CS	
11	'			This is applied only for LIE in LIE operation
				mode A
15	8	UF		The UE initiates an attach automatically by
	-	01		MMI or by AT command.
19	9	->	ATTACH REQUEST	Attach type = 'PS attach'
	-	-		Mobile identity = IMSI
20	0	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
				Mobile identity = $P$ -TMSI-1
				P-TMSI-1 signature
				Routing area identity = RAI-2
21	1	->	ATTACH COMPLETE	
22	2	UE		The UE is switched off or power is removed
				(see ICS).
23	3	->	DETACH REQUEST	Message not sent if power is removed.
				Detach type = 'power switched off. PS detach'

#### NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.2.1.4.4.2 Test procedure 2

#### Initial condition

### System Simurator:

One cell operating in network operation mode II: MCC2/MNC1/LAC1/RAC1 (RAI-2). The PLMN of the cell should NOT be that of the Mobile Station Home PLMN.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2. UE is Idle Updated on cell A.

### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode C Yes/No UE operation mode A Yes/No (only if mode C not supported) Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS rejects a PS attach with the cause value 'PLMN not allowed'. The subscribers access rights is changed to allow PS attach. Then the PLMN from which this rejection was received is manually selected and the SS check that a PS attach is performed.

### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
1	UE		The UE is set in UE operation mode C or A
			(see <u>PICSICS</u> ).
2	UE		The UE is powered up or switched on and
			initiates an attach (see PICSICS).
3	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-2
4	<-	ATTACH REJECT	GMM cause = 'PLMN not allowed'
5	UE		No ATTACH REQUEST sent to SS
0			(SS Walts 30 seconds)
6 7	UE	Degistration on CC	The current PLININ is selected manually.
1	UE	Registration on CS	See 15 34.108
8	LIE		The LIE initiates an attach automatically, by
0	0L		MMI or by AT command
9	->	ATTACH REQUEST	Attach type = 'PS attach'
Ū	-		Mobile identity = $IMSI$
10	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-2
11	->	ATTACH COMPLETE	
12	UE		The UE is switched off or power is removed
			(see <mark>PICS<u>ICS</u>)</mark> .
13	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach'

Specific message contents

None.

12.2.1.4.5 Test requirements

Test requirements for test procedure 1

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, UE shall:

- not perform PS attach procedure.
- UE shall_perform the following actions depending on the PLMN or the routing area or the location area

Case 1) UE is in the same routing area or location area when the power is switched on,

At step11, UE shall:

- not perform PS attach procedure.

Case2) UE is in the same PLMN, and this PLMN is not selected manually

At step14, UE shall:

- not perform PS attach procedure.

Case3) UE is in a new PLMN.

At step19, UE shall:

- perform the PS attach procedure.

#### Test requirements for test procedure 2

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, UE shall:

- not perform PS attach procedure.

At step9, when the UE is in the new PLMN, and this PLMN is selected manually, UE shall

- perform the PS attach procedure.

#### 12.2.1.5a PS attach / rejected / roaming not allowed in this location area

12.2.1.5a.1 Definition

#### 12.2.1.5a.2 Conformance requirement

- 1) If the network rejects a PS attach procedure from the User Equipment with the cause 'roaming not allowed in this location area' the User Equipment shall:
  - 1.1 not perform PS attach when in the same location area.
  - 1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.3 store the LA in the 'forbidden location areas for roaming' list.

- 1.4 perform PS attach when a new location area is entered.
- 1.5 Periodically search for its HPLMN.
- 2) The User Equipment shall reset the list of 'Forbidden location areas for roaming' when switched off or when the USIM is removed.
- 3) The UE shall be capable of storing at least 6 entries in the list of 'Forbidden location areas for roaming'.

#### Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.5a.3 Test purpose

#### Test purpose 1

To test that on receipt of a rejection using the 'roaming not allowed in this location area' cause code, the UE ceases trying to attach on that location area. Successful PS attach procedure is possible in other location areas.

#### Test purpose 2

To test that if the UE is switched off or the USIM is removed the list of 'forbidden location areas for roaming' is cleared.

#### Test purpose 3

To test that at least 6 entries can be held in the list of 'forbidden location areas for roaming' (the requirement in 3GPP TS 24.008 is to store at least 10 entries. This is not fully tested by the third procedure).

#### Test purpose 4

To test that if a cell of the Home PLMN is available then the UE returns to it in preference to any other available cell.

12.2.1.5a.4 Method of test

12.2.1.5a.4.1 Test procedure 1

#### Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN), cell B in

MCC2/MNC1/LAC2/RAC1 (RAI-6, Not HPLMN) and cell C in MCC2/MNC1/LAC1/RAC2 (RAI-7, Not HPLMN).

All three cells are operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode C Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

### Test procedure

The SS rejects a PS attach with the cause value 'Roaming not allowed in this area'. A new attempt for a PS attach is not possible. Successful PS attach / detach procedures are performed in another location area. A new attempt for a PS attach is performed in the 1st location area. This attempt shall not succeed, as the LA is on the forbidden list.

Step	Direction	Message	Comments
	UE SS		The following messages are sent and shall be
	00		received on cell A.
1	UE		The UE is set in UE operation mode C (see
			ICS). If UE operation mode C not supported,
2	66		goto step 19.
2			A to the "Serving cell"
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Off cell".
2			(note) The LIE is newered up or ewitched on and
5	UL		initiates an attach (see ICS). Cell A is preferred
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-1
			Routing area identity = RAI-2
5	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
			area'
6	UE		No ATTACH REQUEST sent to SS
			(SS waits 50 seconds). The following messages are sent and shall be
			received on cell B.
7	SS		The SS Deactivates cell A and activates cell
			B. Set the cell type of cell A to the "Off cell".
			(note)
8	UE		Cell B is preferred by the UE.
9	UE	Registration on CS	See TS 34.108
			This is applied only for UE in UE operation
			Parameter mobile identity is IMSI
10	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
11	->	ATTACH REQUEST	Attach type = 'PS attach'
12	<-	АТТАСН АССЕРТ	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
13	->		Routing area identity = RAI-6
13	UE	ATTACITOOMFLETE	The UE initiates a PS detach (without power
	-		off) by MMI or by AT command .
15	->	DETACH REQUEST	Detach type = 'normal detach, PS detach'
16	<-		The following messages are sent and shall be
			received on cell C.
17	SS		The SS deactivates cell B and activates cell
			C.Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Serving cell".
18	UE		Cell C is preferred by the UE.
19	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
			(see ICS)
20	UE		UE is switched off.
21	SS		The SS deactivates cell C.Set the cell type of
			cell C to the "Off cell".
22			( <u>NOTE</u> ) The LIE is set in LIE operation mode A if
~~	UE		supported (see ICS) and the test is repeated
			from step 2 to step 20.

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NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

12.2.1.5a.4.2 Test procedure 2

### Initial condition

System Simulator:

One cell in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN) operating in network operation mode II.

User Equipment:

The_UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on button Yes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a PS attach updating with the cause value 'Roaming not allowed in this area'. The UE is switched off for 10 s and switched on again. The SS check that a PS attach is possible on the cell on which the PS attach had been rejected.

If USIM removal is possible without switching off: The SS rejects a PS attach with the cause value 'Roaming not allowed in this area'. The USIM is removed and inserted in the UE. The SS check that a PS attach is possible on the cell on which the PS attach had been rejected.

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### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
1	UE		If UE operation mode C is supported, the UE is set in UE operation mode C (see <u>PICSICS</u> ). If UE operation mode C is not supported, the UE is set in UE operation mode A
2	UE		The UE is powered up or switched on and initiates an attach (see ICS).
3	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
4	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this area'
5	UE		No ATTACH REQUEST sent to the SS (SS waits 30 seconds).
6	UE		If possible (see ICS) switch off is performed. Otherwise the power is removed.
7	UE		The UE is powered up or switched on and initiates an attach (see ICS).
8	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI
9	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
10	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
11	->	ATTACH COMPLETE	
12	UE		The UE is switched off or power is removed (see ICS).
13	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

### 12.2.1.5a.4.3 Test procedure 3

### Initial condition

### System Simulator:

Six cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2, Not HPLMN), cell B in MCC2/MNC1/LAC2/RAC1 (RAI-3, Not HPLMN), cell C in MCC2/MNC1/LAC3/RAC1 (Not HPLMN), cell D in MCC2/MNC1/LAC4/RAC1 (Not HPLMN), cell E in MCC2/MNC1/LAC5/RAC1 (Not HPLMN), cell F in MCC2/MNC1/LAC6/RAC1 (Not HPLMN).

All six cells are operating in network operation mode II (in case of UE operation mode A).

### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on button Yes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The SS rejects a PS attach with the cause value 'Roaming not allowed in this area'. This is done for 6 different location areas. Then the SS checks that the UE does not attempt to perform an attach procedure on the non-allowed location areas.

Different types of UE may use different methods to periodically clear the list of forbidden areas (e.g. every day at 12am) for roaming. If the list is cleared while the test is being run, it may be necessary to re-run the test.

Step	Direction	Message	Comments
	UES		The following measures are part and shall be
	55		received on cell A
1	SS		The SS is set in network operation mode II-and
			activates cell A.
			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell C to the "Off cell".
			Set the cell type of cell D to the "Off cell".
			Set the cell type of cell E to the "Off cell".
			(note)
2	UE		The UE is set in UE operation mode C (see
0			ICS).
3	UE		I he UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-IMSI-1
			Routing area identity = RAI-2
5	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
6			area'
0	UL		(SS waits 30 seconds)
			The following messages are sent and shall be
7	22		received on cell B.
'			B-Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
0			(note)
8	UE	Registration on CS	See TS 34.108
-			This is applied only in case of UE operation
			mode A.
10	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
11	->	ATTACH REQUEST	Attach type = 'PS attach'
12	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
			area'
13	UE		No ATTACH REQUEST sent to SS
			The following messages are sent and shall be
			received on cell C.
14	SS		The SS deactivates cell B and activates cell
			Set the cell type of cell C to the "Serving cell".
			(note)
15	UE	Desistration on CC	Cell C is preferred by the UE.
10	UE	Registration on CS	This is applied only for UE in UE operation
			mode A.
47			Parameter mobile identity is IMSI.
17	UE		MMI or by AT command.
18	->	ATTACH REQUEST	Attach type = 'PS attach'
40			Mobile identity = IMSI
19	<-		Givini cause = Koaming not allowed in this area'
20	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
			received on cell D.
1	1	1	

Step	Direction	Message	Comments
21	SS		The SS deactivates cell C and activates cell
			D-Set the cell type of cell C to the "Off cell".
			Set the cell type of cell D to the "Serving cell".
22	UE		Cell D is preferred by the UE.
23	UE	Registration on CS	See TS 34.108
			mode A.
			Parameter mobile identity is IMSI.
24	UE		The UE initiates an attach automatically, by
25	->	ATTACH REQUEST	Attach type = 'PS attach'
20			Mobile identity = IMSI
26	<-	ATTACH REJECT	area'
27	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
			received on cell E.
28	SS		The SS deactivates cell D and activates cell
			E.Set the cell type of cell D to the "Off cell".
			(note)
29	UE	Desistration on CC	Cell E is preferred by the UE.
30	UE	Registration on CS	This is applied only for UE in UE operation
			mode A.
31	LIE		Parameter mobile identity is IMSI.
01	θL		MMI or by AT command.
32	->	ATTACH REQUEST	Attach type = 'PS attach'
33	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
			area'
34	UE		No ATTACH REQUEST sent to SS (SS waits 30 seconds)
			The following messages are sent and shall be
05	00		received on cell F.
35	55		F.Set the cell type of cell E to the "Off cell".
			Set the cell type of cell F to the "Serving cell".
36	LIE		(note) Cell F is preferred by the LIF
37	UE	Registration on CS	See TS 34.108
			This is applied only for UE in UE operation
38	UE		The UE initiates an attach automatically. by
			MMI or by AT command.
39	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
40	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
44			area'
41	UE		(SS waits 30 seconds)
			The following messages are sent and shall be
42	SS		The SS deactivates cell F and activates cell
			E-Set the cell type of cell E to the "Serving
			<u>cell".</u>
			(note)
43	SS		Cell E is preferred by the UE.
44	UE		MMI or by AT command.
45	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).

#### **Release 4**

Step	Direction	Message	Comments
-	UE SS	_	
			The following messages are sent and shall be
			received on cell C.
46	SS		The SS deactivates cell E and activates cell
			G.Set the cell type of cell C to the "Serving
			<u>cell".</u>
			Set the cell type of cell E to the "Off cell".
			(note)
47	SS		Cell C is preferred by the UE.
48	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
49	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
			The following messages are sent and shall be
			received on cell A.
50	SS		The SS deactivates cell C and activates cell
			A.Set the cell type of cell A to the "Serving
			<u>cell".</u>
			Set the cell type of cell C to the "Off cell".
			(note)
51	SS		Cell A will be preferred by the UE.
52	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
53	UE		No ATTACH REQUES is sent to SS
			(SS waits 30 seconds).
NOTE:T	he definitions	for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radio

Conditions for signalling test cases only".

12.2.1.5a.4.4 Test procedure4

### Initial condition

System Simulator:

Two cells, cell A in MCC2/MNC1/LAC1/RAC1 (not HPLMN, RAI-2) and cell B in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1). Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-2.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on button Yes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The SS rejects a PS attach with the cause value 'Roaming not allowed in this area A second cell belonging to the HPLMN is activated. It is checked that the UE returns to its HPLMN.

Step	Direction	Message	Comments
	<u></u>		The following messages are sent and shall b
	00		received on cell A
1	LIE		The LIE is set in LIE operation mode C (see
•	0L		
2	88		The SS is set in network operation mode IL
2	00		activates coll A
			Set the cell type of cell A to the "Serving cell
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
3	UE		The UE is powered up or switched on and
°,	01		initiates an attach (see ICS). Cell A is prefer
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
•	-		Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Routing area identity = $RAI-2$
5	<-	ATTACH REJECT	GMM cause = 'Roaming not allowed in this
-			area'
6	UE		No ATTACH REQUEST sent to SS
•			(SS waits 30 seconds).
			The following messages are sent and shall the
			received on cell B.
7	SS		Activate cell B.Set the cell type of cell A to the
-			"Suitable neighbour cell".
			Set the cell type of cell B to the "Serving cel
			(note)
8	UE	Registration on CS	See TS 34.108
			This is applied only for UE in UE operation
			mode A.
			Parameter mobile identity is IMSI.
9	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
10	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = IMSI
11	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
12	->	ATTACH COMPLETE	
13	UE		The UE is switched off or power is removed
			(see ICS).
14	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detact
	a definitions	for "Quitable paighbour call" and "Q	anying call" are enacified in TC24.409 claused

Specific message contents

None.

12.2.1.5a.5 Test requirements

Test requirements for Test procedure1

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform the PS attach procedure.

At step11, when the new location area is entered, UE shall:

- perform the PS attach procedure
- At step19, when the rejected location area is entered, UE shall
  - not perform PS attach procedure.

Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, after the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step9, when the UE is switched off or USIM is replaced, UE shall:

- perform the PS attach procedure.

#### Test requirements for Test procedure3

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, 13, 20, 27, 34 and 41, after the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step11, 18, 25, 32 and 39, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step45, 49 and 53, UE shall:

- not perform PS attach procedure.

#### Test requirements for Test procedure4

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Roaming not allowed in this area', UE shall:

- not perform PS attach procedure.

At step10, when a new location area is entered, UE shall:

- perform the PS attach procedure.

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### 12.2.1.5b PS attach / rejected / No Suitable Cells In Location Area

- 12.2.1.5b.1 Definition
- 12.2.1.5b.2 Conformance requirement
  - (1) If the network rejects a PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
    - 1.1 not perform PS attach when in the same location area.
    - 1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
    - 1.3 store the LA in the 'forbidden location areas for roaming' list.
    - 1.4 perform PS attach when a new location area is entered.

#### Reference

3GPP TS 24.008 clauses 4.7.3.1.

#### 12.2.1.5b.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'No Suitable Cells In Location Area'.

### 12.2.1.5b.4 Method of test

Initial condition

### System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

All three cells are operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS rejects a PS attach with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN and shall perform PS attach procedure in that cell.

Step	Direction	Message	Comments
	UE SS		
	SS		The SS activates three cells simultaneously
			the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			(note)
			The SS configures power level of each Cell
			follows.
			Cell A > Cell B = Cell C
1	UE		The UE is set in UE operation mode A (see
-			ICS).
2	UE		The UE is powered up or switched on and
-			initiates an attach (see ICS). Cell A is prefer
			by the UE.
3	->	ATTACH REQUEST	Attach type = 'PS attach'
Ū	-		Mobile identity = $P$ -TMSI-1
			P-TMSI-1 signature
			Routing area identity = $RAI-1$
4	<-	ATTACH REJECT	GMM cause = 'No Suitable Cells In Location
•			Area'
5	SS		The SS initiates the RRC connection release
Ū			The following message are sent and shall be
			received on cell B.
6	UE	Registration on CS	See TS 34.108
7	ŬĒ		The UE initiates an attach automatically, by
			MMI or by AT command.
8	->	ATTACH REQUEST	Attach type = 'PS attach'
-	-		Mobile identity = $IMSI$
9	<-	АТТАСН АССЕРТ	Attach result = 'PS only attached'
-			Mobile identity = $P$ -TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-2
10	->	ATTACH COMPLETE	
11	UE		The UE is switched off or power is removed
••			(see ICS).
12	->	DETACH REQUEST	Message not sent if power is removed
•=	-		Detach type = 'power switched off. PS detac
	he definitions	for "Suitable neighbour cell" and "S	erving cell" are specified in TS34 108 clause

### Specific message contents

None.

### 12.2.1.5b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

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### 12.2.1.6 PS attach / abnormal cases / access barred due to access class control

- 12.2.1.6.1 Definition
- 12.2.1.6.2 Conformance requirement
  - 1) The UE shall not perform PS attach procedure, but stays in the current serving cell and applies normal cell reselection process.
  - 2) The User Equipment shall perform the PS attach procedure when:
    - 2.1 Access is granted.
    - 2.2 Cell is changed.

#### Reference

3GPP TS 24.008 clause 4.7.3.1.

12.2.1.6.3 Test purpose

#### Test purpose1

To test the behaviour of the UE in case of access class control (access is granted).

#### Test purpose2

To test the behaviour of the UE in case of access class control (Cell is changed).

12.2.1.6.4	Method of test

12.2.1.6.4.1 Test procedure1

### Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is initially indicated to be barred.

### System Simulator:

One cell operating in network operation mode II. Access class x barred.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS indicates access class x barred. A PS attach procedure is not performed.

The SS indicates that access class x is not barred. A PS attach procedure is performed.

#### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
1	UE		The USIM is programmed with access class x.
2	UE		The UE is set in UE operation mode C (see
			ICS). If UE operation mode C not supported,
			goto step 12.
3	UE		The UE is powered up or switched on and
			attempts to initiate an attach (see ICS).
4	UE		No ATTACH REQUEST sent to SS, as access
			class x is barred
_			(SS waits 30 seconds).
5	SS		The access class x is not barred anymore.
6	UE		The UE automatically initiates a PS attach.
	->	ATTACH REQUEST	Attach type = PS attach
			$P_{TMSI-1} = F_{TMSI-1}$
			Routing area identity $- RAI_1$
8	<i>L</i> -		Attach result – 'PS only attached'
Ŭ			Mobile identity = $P-TMSI-2$
			P-TMSI-2 signature
			Routing area identity = $RAI-1$
9	->	ATTACH COMPLETE	<i>. . .</i>
10	UE		The UE is switched off or power is removed
			(see ICS).
11	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach'
12	SS		The SS is set in network operation mode II.
13	UE		The UE is set in UE operation mode A(see
			ICS) and the test is repeated from step 3 to
1			step 11.

### 12.2.1.6.4.2 Test procedure2

#### Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is indicated to be barred on cell A.

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x barred, cell B in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x not barred. Both cells are operating in network operation mode II (in case of UE operation mode A).

#### User Equipment:

The UE has a valid P-TMSI-2, P-TMSI-2 signature and RAI-1.

### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode C Yes/No

UE operation mode A Yes/No Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

### Test procedure

The SS indicates access class x barred. A PS attach procedure is not performed.

A cell change is performed into a cell where access class x is not barred. A PS attach procedure is performed.

### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
1	UE		The USIM is programmed with access class x.
	SS		The following messages are sent and shall be
			received on cell A.
2	SS		The SS is set in network operation mode II-and
			activates cell A.
			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
3	UE		The UE is set in UE operation mode C (see
-			ICS).
4	UE		The UE is powered up or switched on and
			attempts to initiate an attach (see ICS).
5	UE		No ATTACH REQUEST sent to SS, as access
-			class x is barred
			(SS waits 30 seconds).
			The following messages are sent and shall be
			received on cell B.
6	SS		Activate cell B. Set the cell type of cell A to the
Ŭ			"Suitable neighbour cell".
			Set the cell type of cell B to the "Serving cell".
			(note)
7	UE		The UE automatically initiates an attach.
8	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
9	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
10	->	ATTACH COMPLETE	
11	UE		The UE is switched off or power is removed
	_		(see ICS).
12	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach'
NOTE:T	NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1		

"Reference Radio Conditions for signalling test cases only".

### Specific message contents

None.

12.2.1.6.5 Test requirements

Test requirements for Test procedure1

At step4, when the UE access class x is barred, UE shall:

- not perform a PS attach procedure.

At step7, when the UE access class x is granted, UE shall:

initiate the PS attach procedure.

#### Test requirements for Test procedure2

At step5, when the UE access class x is barred, UE shall:

- not perform a PS attach procedure.

At step8, when the serving cell is changed, UE shall:

- initiate the PS attach procedure.

### 12.2.1.7 PS attach / abnormal cases / change of cell into new routing area

12.2.1.7.1 Definition

#### 12.2.1.7.2 Conformance requirement

When a change of cell into a new routing area is performed before ATTACH ACCEPT message is received by the UE, the UE shall abort the PS attach procedure and re-initiate it immediately.

#### Reference

3GPP TS 24.008 clause 4.7.3.1.

#### 12.2.1.7.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

### 12.2.1.7.4 Method of test

#### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

### Related ICS/IXIT statements

Support of PS service	Yes/No
UE operation mode C	Yes/No
UE operation mode A	Yes/No (only if mode C not supported)
Switch off on button	Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The UE initiates a PS attach procedure. The ATTACH ACCEPT message is delayed from the SS. The UE performs a cell reselection to a cell in a new routing area. The UE shall re-initiate a PS attach procedure in the new routing area.

Step	Direction	Message	Comments
	UE SS		
	SS		The following messages are sent and shall be
			received on cell A.
1	UE		The UE is set in UE operation mode C (see
			ICS).
2	SS		The SS is set in network operation mode II-and
			activates cell A.
			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			(note)
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	SS		No response to the ATTACH REQUEST
			message is given by the SS.
			The following messages are sent and shall be
			received on cell B.
6	SS		The SS deactivates cell A and activates cell B.
			Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
			(note)
_			Cell B is preferred by the UE.
1	UE		The UE automatically re-initiates the attach in
			the new cell.
ö	->	ATTACH REQUEST	Allach type = PS attach
			P = P = P = P = P = P = P = P = P = P =
			P-1 MOI-1 Signature
0			Kouling area identity = KAI-1
ษ	<-		D TMSL and D TMSL aignoture not included
			Attach result - 'PS only attached'
			Pouting area identity = PAL4
10			The LIE is switched off or power is removed
10	UE		
11	- >		Message not sent if nower is removed
	->		Detach type – 'nower switched off PS detach'
			P = P = P = P = P = S = S = U = S = S = S = S = S = S = S

### Specific message contents

None.

### 12.2.1.7.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected sequence.

At step8, when a change of cell into a new routing area is performed before ATTACH ACCEPT message or ATTACH REJECT message is received by the UE, UE shall:

- abort the PS attach procedure and re-initiate the PS attach procedure immediately with new information elements.

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### 12.2.2.4 Combined PS attach / rejected / IMSI invalid / illegal ME

12.2.2.4.1 Definition

12.2.2.4.2 Conformance requirement

- 1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall consider USIM invalid for PS and non-PS services until power is switched off or USIM is removed.
- 2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall delete the stored TMSI, LAI, CSKN, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

### Reference

3GPP TS 24.008 clause 4.7.3.2

12.2.2.4.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure of the UE with the cause 'Illegal ME'.

12.2.2.4.4 Method of test

### Initial condition

#### System Simulator:

Two-<u>Three</u> cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC<u>1</u>2/MNC1/LAC1/RAC<u>2</u>4 (RAI-<u>4</u>2), cell C in MCC2/MNC1/LAC1/RAC1(RAI-2). Both_All three cells are operating in network operation mode I.

#### User Equipment:

The UE has a valid TMSI-1, P-TMSI-1, P-TMSI-1 signature and RAI-1.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUSIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The SS rejects a PS attach with the cause value 'Illegal ME'. The SS checks that the UE does not perform PS attach in the same or another PLMN. CS services are not possible as the USIM is blocked for CS services. PS services are not possible as the USIM is blocked for PS services.
|

# Expected Sequence

Step	Direction UE SS	Message	Comments
1	SS		The following messages are sent and shall be received on cell A. The SS activates cell A. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell".
2	UE		(note) The UE is set in UE operation mode A (see
3	UE		The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	by the UE. Attach type = 'Combined PS / IMSI attach' or 'GPRS-PS attach while IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 TMSI status = valid TMSI available or IE is
5 6	<- UE	ATTACH REJECT PAGING TYPE1	omitted GMM cause 'Illegal ME'. Mobile identity = TMSI-1Paging order is for CS
7	UE		The UE shall not initiate an RRC connection.
8	<-	PAGING TYPE1	Mobile identity = IMSI Paging order is for CS
9	UE		The UE shall not initiate an RRC connection.
10	<-	PAGING TYPE1	Nobile identity = P-TMSI-1
11	UE		Paging order is for PS services. No response from the UE to the request. This is checked for 10 seconds.
12	SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B.Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
13 14	UE UE		(note) Cell B is preferred by the UE. No ATTACH REQUEST sent to the SS
15	<-	PAGING TYPE1	Mobile identity = IMSI Paging order is for CS
16	UE		The UE shall not initiate an RRC connection. This is checked during 3 seconds.
17	SS		The following messages are sent and shall be received on cell C. The SS deactivates cell C and activates cell C. Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell".
18 19	UE UE		(note) Cell C is preferred by the UE. No ATTACH REQUEST sent to the SS (SS waits 30 seconds)
20	<-	PAGING TYPE1	Mobile identity = IMSI Paging order is for PS
21	UE		No response from the UE to the request. This
22	UE		If possible (see <u>PICSICS</u> ) USIM removal is performed. Otherwise if possible (see <u>PICSICS</u> ) switch off is performed. Otherwise the power is removed.

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Step	Direction	Message	Comments
	UE SS		
23	UE		The UE gets the USIM replaced, is powered up
			or switched on and initiates an attach (see
			ICS).
24	UE		Step 25 is only performed for non-auto attach
			UE.
25		Degistration on CS	A location updating procedure is initiated.
25	UE	Registration on CS	See 1534.100 Parameter Mobile identity is IMSI
26	LIE		LIE initiates an attach automatically (see
20	0L		PICSICS), by MMI or AT commands.
27	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or
			'GPRS-PS attach while IMSI attached'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available
28	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Mobile identity = TMSI-1
20			Routing area identity = RAI-2
29	->		Mahila idantity - TMSI 1
30	<-	FAGING I FEI	Paging order is for CS services
31	->	RRC CONNECTION REQUEST	r aging order is for CS services.
32		RRC CONNECTION SETUP	
33	->	RRC CONNECTION SETUP	
		COMPLETE	
34	->	PAGING RESPONSE	Mobile identity = TMSI-2
35	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
			disconnection of the CS signalling link.
36	->	RRC CONNECTION RELEASE	
		COMPLETE	
37	UE		The UE is switched off or power is removed
20			(See ICS).
38	->	DETACH REQUEST	Nessage not sent if power is removed.
			PS / IMSI detach'
NOTE	he definitions	for "Off cell" and "Serving cell" are	specified in TS34 108 clause6 1 "Reference Radic

<u>NOTE: The definitions for "Officein" and "Serving cein" are specified in 1534.108 clause6.1 "Reference</u> <u>Conditions for signalling test cases only".</u>

Specific message contents

None.

#### 12.2.2.4.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, 9 and 16, when the UE receives the paging message for CS domain, UE shall,

- not respond to the paging message for CS domain.
- At step11 and 21, when the UE receives the paging message for PS domain, UE shall,
  - not respond to the paging message for PS domain.

At step27, when the USIM is replaced, UE shall:

- perform the combined PS attach procedure.

At step34, when the UE receives the paging message for CS domain, UE shall,

- respond to the paging message for CS domain by sending the RAGING RESPONSE message.

#### **Release 4**

# 12.2.2.5 Combined PS attach / rejected / PS services and non-PS services not allowed

12.2.2.5.1 Definition

#### 12.2.2.5.2 Conformance requirement

- 1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services and non-PS services not allowed', the User Equipment shall consider USIM invalid for PS and non-PS services until power is switched off or USIM is removed.
- If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services and non-PS services not allowed', the User Equipment shall delete the stored TMSI, LAI, CSKN, RAI, PS-CKSN, P-TMSI and P-TMSI signature.

#### Reference

3GPP TS 24.008 clause 4.7.3.2.

#### 12.2.2.5.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure of the UE with the cause 'PS services and non-PS services not allowed'.

#### 12.2.2.5.4 Method of test

#### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2).
Both cells are operating in network operation mode I.

#### User Equipment:

- The UE has a valid TMSI-1, P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

- Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS rejects a PS attach with the cause value 'PS services and non-PS services not allowed'. The SS checks that the UE does not perform PS attach in the same or another PLMN. CS services are not possible as the USIM is blocked for CS services. PS services are not possible as the USIM is blocked for PS services.

# Expected Sequence

Step	Direction	Message	Comments
	00 33		The following messages are sent and shall be
			received on cell A.
1	SS		The SS activates cell A.Set the cell type of cell
			A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
2	UE		The UE is set in UE operation mode A (see
-			ICS).
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or
•	-		' <u>PSGPRS</u> attach while IMSI attached'
			Mobile identity =P-TMSI-1
			P-TMSI-1 signature
5			Routing area identity = RAI-1
5		ATTAOTTRESEOT	not allowed'
6	UE		The SS verifies that the UE does not attempt to
			access the network.
7			(SS waits 30 seconds).
7	<-	PAGING TYPET	Nobile identity = INSI Paging order is for CS services
8	UE		The UE shall not initiate an RRC connection.
			This is checked during 3 seconds.
9	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
10	LIE		Paging order is for PS Paging.
10	UE		This is checked for 10 seconds
11	SS		Cell A is deactivated and cell B is activated. Set
			the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
12		(void)	(note)
13	UE	(1014)	The SS verifies that the UE does not attempt to
			access the network.
11			(SS waits 30 seconds).
14	<-	PAGING TIPET	Paging order is for CS services
15	UE		The UE shall not initiate an RRC connection.
			This is checked during 3 seconds.
16	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
17	LIE		No response from the LIE to the request. This
17	0L		is checked for 10seconds.
18	UE		If possible (see ICS) switch off is performed.
- 10			Otherwise the power is removed.
19 20		Registration on CS	The UE is powered up or switched.
20	UL	Registration on CO	This step is applied only for non-auto attach
			UE.
			Location Update Procedure initiated from the
21			UE. Parameter mobile identity is IMSI.
21	UE		PICSICS), by MMI or AT commands
22	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or
			'PSGPRS attach while IMSI attached'
			Mobile identity = IMSI
23		ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
20			Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Mobile identity = TMSI-1
	l		Routing area identity = RAI-2

Step	Direct	ion	Message	Comments	
	UE	SS	-		
24	->		ATTACH COMPLETE		
25	<-		PAGING TYPE1	Mobile identity = TMSI-1	
				Paging order is for CS services.	
26	->	•	RRC CONNECTION REQUEST		
27	<-	•	RRC CONNECTION SETUP		
28	->		RRC CONNECTION SETUP		
20				Mobile identity - TMSL 1	
29	->			After sending of this message the SS waits for	
50		-		disconnection of the CS signalling link	
31	->		RRC CONNECTION RELEASE		
-			COMPLETE		
32	<-		PAGING TYPE1	Mobile identity = P-TMSI-1	
				Paging is for PS services.	
33	->		RRC CONNECTION REQUEST		
34	<-		RRC CONNECTION SETUP		
35	->		RRC CONNECTION SETUP		
20				Comics type "noning roomonoo"	
30	->	•		Service type = paging response	
38	-				
- 50	->		COMPLETE		
39	UE			The UE is switched off or power is removed	
	52			(see ICS).	
40	->		DETACH REQUEST	Message not sent if power is removed.	
				Detach type = 'power switched off, combined	
				PS / IMSI detach'	
NOTE:T	he defin	itions	for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radic	
Conditions for signalling test cases only"					

#### Specific message contents

None.

#### 12.2.2.5.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8 and 14, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step10 and 17, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step22, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure.

At step29, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step36, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

## 12.2.2.6 Combined PS attach / rejected / PS services not allowed

- 12.2.2.6.1 Definition
- 12.2.2.6.2 Conformance requirement
  - 1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.
  - 2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 3) A PS class AUE shall perform an MM IMSI attach procedure.

#### Reference

3GPP TS 24.008 clause 4.7.3.2

12.2.2.6.3 Test purpose

To test the behaviour of the UE if the network rejects the PS attach procedure of the UE with the cause 'PS services not allowed'.

#### 12.2.2.6.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2). Both cells are operating in network operation mode I. ATT flag set to 1

User Equipment:

The UE has a valid TMSI, P-TMSI-1, P-TMSI-1 signature and RAI-1.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a normal attach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach. PS services are not possible. An UE operation mode A UE shall perform an MM IMSI attach.

|

# Expected Sequence

St	tep	Direction UE SS	Message	Comments
	1	SS		The following messages are sent and shall be received on cell A. The SS activates cell A.Set the cell type of cell A to the "Serving cell"
2	2 2a	UE UE	Registration on CS	Set the cell type of cell B to the "Off cell". (note) The UE is powered up or switched on. See TS 34.108 This step is applied only for non-auto attach UE.
2	2b 3	UE ->	ATTACH REQUEST	Location Update Procedure initiated from the UE. Parameter mobile identity is TMSI-1. UE initiates an attach automatically (see <u>PICSICS</u> ), via MMI or AT commands. Attach type = 'Combined PS / IMSI attach' or ' <u>PSGPRS</u> attach while IMSI attached' Mobile identity =P-TMSI-1
	4 5 6	<- UE UE	ATTACH REJECT Registration on CS	P-TMSI-1 signature Routing area identity = RAI-1 GMM cause 'PS services not allowed' An automatic MM IMSI attach procedure is initiated. See TS 34.108
	7	<-	PAGING TYPE1	Location updating type = IMSI attach. The SS allocates TMSI-2. Mobile identity = TMSI-2 Paging order is for CS convisos
1	8 9 10	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	raging order is for CS services.
1	11 12	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-2 After sending of this message, the SS waits for disconnection of the CS signaling link.
1	13	->	RRC CONNECTION RELEASE	
1	14	SS		The following messages are sent and shall be received on cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note) The SS deactivates cell A and activates
1	15 16 17	UE UE UE	Registration on CS	Cell B is preferred by the UE. A location updating procedure is initiated. See TS 34.108 Location updating type = normal. The SS allocates TMSL 1
1	18	<-	PAGING TYPE1	Mobile identity = $TMSI-1$ Paging order is for CS services
1	19 20 21	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	
2	22 23	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-1 After sending of this message, the SS waits for
2	24	->	RRC CONNECTION RELEASE	disconnection of the CS signalling link.
2	25	<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging is for PS services
2	26	UE		No response from the UE to the request. This is checked for 10seconds.
2	27	UE		If possible (see ICS) switch off is performed. Otherwise the power is removed.

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Step	Direction	Message	Comments
	UE SS		
27a	UE		If switch off is performed then UE performs
			IMSI detach procedure.
28	UE		The UE is powered up or switched.
28a	UE	Registration on CS	See TS 34.108
			This step is applied only for non-auto attach UE.
			Location Update Procedure initiated from the UE. Parameter mobile identity is TMSI-1.
28b	UE		UE initiates an attach automatically (see
29	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or ' <u>PSGPRS</u> attach while IMSI attached' Mobile identity = IMSI
30	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = $P$ -TMSI-1
			P-TMSI-1 signature
			Mobile identity = TMSI-2
			Routing area identity = RAI-2
31	->	ATTACH COMPLETE	
32	<-	PAGING TYPE1	Mobile identity = TMSI-2
			Paging order is for CS services.
33	->	RRC CONNECTION REQUEST	
34	<-	RRC CONNECTION SETUP	
35	->	RRC CONNECTION SETUP	
36	->	PAGING RESPONSE	Mobile identity = TMSI-2
37	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link.
38	->	RRC CONNECTION RELEASE	
39	UE		The UE is switched off or power is removed
40	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

# 12.2.2.6.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step6, if the UE is PS class A, UE shall:

- perform the MM IMSI attach procedure.

At step11, 22 and 36, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step26, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step29, UE shall:

- perform the PS attach procedure.

#### 12.2.2.7a Combined PS attach / rejected / location area not allowed

12.2.2.7a.1 Definition

12.2.2.7a.2 Conformance requirement

- 1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:
  - 1.1 not perform combined PS attach when in the same location area.
  - 1.2 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.3 store the LA in the 'forbidden location areas for regional provision of service'.
- 2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:
  - 2.1 perform combined PS attach when a new location area is entered.
  - 2.2 delete the list of forbidden LAs when power is switched off.

#### Reference

3GPP TS 24.008 clauses 4.7.3.2.

#### 12.2.2.7a.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

12.2.2.7a.4 Method of test

Initial condition

#### System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC2/RAC1 (RAI-3). All cells are operating in network operation mode I.

User Equipment:

The UE has a valid TMSI, P-TMSI, P-TMSI signature and RAI.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a combined PS attach with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform combined PS attach while in the location area, performs PS attach when a new location area is entered and deletes the list of forbidden LAs when switched off. CS services are not possible unless an IMSI attach procedure is performed.

Different types of UE may use different methods to periodically clear the list of forbidden location areas (e.g. every day at 12am). If the list is cleared while the test is being run, it may be necessary to re-run the test.

# Expected Sequence

Step	Direction	Message	Comments
	<u>v⊏ 33</u>		The following messages are sent and shall be
			received on cell A
1	SS		The SS activates cell A. Set the cell type of cell
•			A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Off cell".
			(note)
2	UE		The UE is set in UE operation mode A (see
0			ICS).
3	UE		initiates an attach (and ICS). Call A is preferred
			by the LIE
4	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or
-	_		"PS Attach while IMSI attached"
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH REJECT	GMM cause 'Location Area not allowed'
6	UE		No LOCATION UPDATING REQ with type
			'IMSI attach' is sent to the SS
_			(SS waits 30 seconds).
7	<-	PAGING TYPE1	Mobile identity = IMSI
0			Paging order is for CS services.
0	UE		The DE Shall not initiate an RRC connection.
٥	-		Mobile identity – P-TMSI-1
9	<-	FAGING ITEL	Paging order is for PS services
10	->		No response from the LIF to the request
10	_		This is checked for 10 seconds
			The following messages are sent and shall be
			received on cell B.
11	SS		The SS deactivates cell A and activates cell
			B.Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
			(note)
12	UE		Cell B is preferred by the UE.
13	UE		NO ATTACH REQUEST OF LOCATION
			UPDATING REQ IS sent to SS
15	-		(35  wails 60 seconds)
15	~		Paging order is for PS services
16	UE		No response from the UE to the request. This
10	02		is checked for 10seconds.
17	UE		The UE initiates an attach by MMI or AT
			command.
18			No attach is performed by the UE. This is
			checked for 10 seconds.
			The following messages are sent and shall be
40			received on cell C.
19	55		The SS deactivates cell B and activates cell
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the Serving cell .
20			Cell C is preferred by the LIE
20	UE		Step20a is only performed for non-auto attach
			UE and is optional.
20a	UE	Registration on CS	Parameter Mobile identity is IMSI.
<u>u</u>	<u> </u>		See TS 34.108
<u>2</u> 0b	UE		UE initiates an attach automatically (see ICS)
			via MMI or AT commands.
21	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available

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Step	Direction UE SS	Message	Comments
22	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-3
23 24	-> <-	ATTACH COMPLETE PAGING TYPE1	Mobile identity = TMSI-1
25 26 27	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	Paging order is for CS services.
28 29	~ ·	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-1 After sending of this message, the SS waits for disconnection of the CS signalling link.
30	->	RRC CONNECTION RELEASE	
31	<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
32	->	RRC CONNECTION REQUEST	
33 34	->	RRC CONNECTION SETUP COMPLETE	
35 36	->	SERVICE REQUEST	Service type = "paging response"
37	->	RRC CONNECTION RELEASE	
38	UE		The UE is switched off or power is removed
39	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'
40	UE		The following messages are sent and shall be received on cell B. The SS deactivates cell C and activates cell B. Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell". (note)
41	UE		The UE is powered up or switched on and initiates an attach (see ICS)
42			Step 43 is only performed for non-auto attach UE.
43 44	UE UE	Registration on CS	See TS 34.108 UE initiates an attach automatically (see
45	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' or "PS Attach while IMSI attached" Mobile identity = P-TMSI-1 P-TMSI-1 signature
46	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Poulting area identity = PAL4
47 48	-> <-	ATTACH COMPLETE PAGING TYPE1	Mobile identity = TMSI-2 Paging order is for CS services
49	->	RRC CONNECTION REQUEST	raying order is for Co services.
50 51	<- ->	RRC CONNECTION SETUP	
52 53	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-2 After sending of this message, the SS waits for disconnection of the CS signalling link.

Step	Direction	Message	Comments			
	UE SS					
54	->	RRC CONNECTION RELEASE				
		COMPLETE				
55	<-	PAGING TYPE1	Mobile identity = P-TMSI-2			
			Paging order is for PS services.			
56	->	RRC CONNECTION REQUEST				
57	<-	RRC CONNECTION SETUP				
58	->	RRC CONNECTION SETUP				
		COMPLETE				
59	->	SERVICE REQUEST	service type = "paging response"			
60	<-	RRC CONNECTION RELEASE				
61	->	RRC CONNECTION RELEASE				
		COMPLETE				
62	UE		The UE is switched off or power is removed			
-	_		(see ICS).			
63	->	DETACH REQUEST	Message not sent if power is removed.			
			Detach type = 'power switched off combined			
			PS / IMSI detach'			
NOTE: T	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio					
С	Conditions for signalling test cases only".					

#### Specific message contents

None.

#### 12.2.2.7a.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence

At step6, when the UE receives the ATTACH REJECT message with GMM cause = 'Location Area not allowed', UE shall:

- not initiate MM location updating procedure.

At step8, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step10 and 16, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step13 and 18, when the UE is in the same location area, UE shall:

- not perform PS attach procedure.

At step21, when the UE enters a new location area, UE shall

- perform the combined PS attach procedure.

At step28 and 52, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step35 and 59, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step45, when the UE is powered up or switched on, UE shall:

- perform the combined PS attach procedure.

#### 12.2.2.7b Combined PS attach / rejected / No Suitable Cells In Location Area

12.2.2.7b.1 Definition

12.2.2.7b.2 Conformance requirement

- 1) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
  - 1.1 not perform combined PS attach when in the same location area.
  - 1.2 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.3 store the LA in the 'forbidden location areas for roaming'.
- 2) If the network rejects a combined PS attach procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
  - 2.1 search for a suitable cell in a different location area on the same PLMN.

#### Reference

3GPP TS 24.008 clauses 4.7.3.2.

#### 12.2.2.7b.3 Test purpose

To test the behaviour of the UE if the network rejects the combined PS attach procedure with the cause 'No Suitable Cells In Location Area'.

#### 12.2.2.7b.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

User Equipment:

The UE has valid TMSI, P-TMSI, P-TMSI signature and RAI

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a combined PS attach with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall search for a suitable cell in a different location area on the same PLMN and shall perform combined PS attach procedure in that cell

#### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
	SS		The SS activates three cells simultaneously.
			Set the cell type of cell A to the "Serving cell"
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			(note)
			The SS configures power level of each Cell as
			follows.
			Cell A > Cell B = Cell C
1	UE		The UE is set in UE operation mode A (see
			ICS).
2	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferre
			by the UE.
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity =P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
4	<-	ATTACH REJECT	GMM cause = 'No Suitable Cells In Location
			Area'
5	SS		The SS initiates the RRC connection release.
			The following message are sent and shall be
			received on cell B.
6	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
7	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available
8	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Mobile identity = TMSI-2
			Routing area identity = RAI-•
9	->	ATTACH COMPLETE	
10	UE		The UE is switched off or power is removed
			(see ICS).
11	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach

"Reference Radio Conditions for signalling test cases only".

# Specific message contents

None.

#### 12.2.2.7b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected sequence.

At step7, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- initiate the combined PS attach procedure.

#### **Release 4**

# 12.2.2.8 Combined PS attach / abnormal cases / attempt counter check / miscellaneous reject causes

12.2.2.8.1 Definition

12.2.2.8.2 Conformance requirement

- 1) When a combined PS attach procedure is rejected with the attempt counter less than five, the User Equipment shall repeat the combined PS attach procedure after T3311 timeout.
- 2) When a combined PS attach procedure is rejected with the attempt counter five, the User Equipment shall delete the stored TMSI, LAI, CKSN, P-TMSI, P-TMSI signature, PS CKSN and RAI and start T3302.
- 3) When the T3302 expire, a new combined PS attach procedure shall be initiated.

GMM cause codes that can be selected are: 'IMSI unknown in HLR' 'UE identity cannot be derived by the network' 'Network failure' 'Congestion' 'retry upon entry into a new cell' 'Semantically incorrect message' 'Invalid mandatory information' 'Message type non-existent or not implemented' 'Message type not compatible with the protocol state' 'Information element non-existent or not implemented' 'Conditional IE error' 'Message not compatible with the protocol state' 'Protocol error, unspecified'

#### Reference

3GPP TS 24.008 clause 4.7.3.2.

12.2.2.8.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

12.2.2.8.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has a valid TMSI, P-TMSI, P-TMSI signature and RAI.

#### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Automatic PS attach procedure at switch on or power on Yes/No

Switch off on button Yes/No

#### Test procedure

The UE initiates a combined PS attach procedure (attempt counter zero).

The SS rejects the attach with an arbitrarily chosen_cause code.

The UE initiates a new combined PS attach procedure (attempt counter one) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter two) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter three) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE initiates a new combined PS attach procedure (attempt counter four) after T3311 expires.

The SS rejects the attach with an arbitrarily chosen cause code.

The UE shall not perform a new successful attach procedure after 15 seconds.

The UE initiates a combined PS attach procedure with attempt counter zero after T3302 expires without P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 10 minutes.

T3311; 15 seconds.

# Expected Sequence

Step	Direction UE SS	Message	Comments
1	UE		The UE is set in UE operation mode A (see
2	UE		The UE is powered up or switched on and
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1
4	<-	ATTACH REJECT	Routing area identity = RAI-1 Arbitrary chosen GMM cause T3302 with value 10 min.
<u>5</u>	≥	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1
5 <u>6</u>	SS		<u>P-IMSI-1 signature</u> <u>Routing area identity = RAI-1</u> The SS verifies that the time between the attach reject and attach request is T3311
6	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 D-TMSI 1 signature
			Routing area identity = RAI-1
7	<-	ATTACH REJECT	Arbitrarily chosen GMM cause
<u>8</u>	-≥	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1
			P-TMSI-1 signature
<mark>8</mark> 9	SS		The SS verifies that the time between the $T_{1}$
<del>9</del>	>	ATTACH REQUEST	Attach reject and attach request is 13311 Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1
			P-TMSI-1 signature
10	<-	ATTACH REJECT	Routing area identity = RAI-1 Arbitrarily chosen GMM cause
<u>11</u>	->	ATTACH REQUEST	T3302 with value 10 min. Attach type = 'Combined PS / IMSI attach'
			<u>Mobile identity = P-TMSI-1</u> <u>P-TMSI-1 signature</u> Bouting area identityAL 1
<u> 1112</u>	SS		The SS verifies that the time between the
<del>12</del>	->	ATTACH REQUEST	attach reject and attach request is T3311 Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1
			P-TMSI-1 signature
13	<-	ATTACH REJECT	Routing area identity = RAI-1 Arbitrarily chosen GMM cause
<u>14</u>	<u>-&gt;</u>	ATTACH REQUEST	T3302 with value 10 min. Attach type = 'Combined PS / IMSI attach'
			<u>Mobile identity =P-TMSI-1</u> <u>P-TMSI-1 signature</u> Bouting propidentityAL 1
<del>14<u>15</u></del>	SS		The SS verifies that the time between the
<del>15</del>	>	ATTACH REQUEST	Attach reject and attach request is 13311 Attach type = 'Combined PS / IMSI attach' Mobile identity =P-TMSI-1
			P-TMSI-1 signature
16	<-	ATTACH REJECT	Arbitrarily chosen GMM cause
17	UE	Registration on CS	See TS 34.108 This is applied only for UE in UE operation
20	<-	PAGING TYPE1	Parameter mobile identity is IMSI. Paging order is for PS services. Mobile identity = P-TMSI-1

Step	Direction	Message	Comments
	UE SS		
21	UE		No response from the UE to the request. This is checked for 10seconds.
<u>21a</u>	->	ATTACH REQUEST	Attach type = 'Combined PS/IMSI attach' or
			'PS attach while IMSI attached'
			Mobile identity = IMSI
22	66		<u>IMSI status = no valid IMSI available</u>
22			attach for T3302.
23	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			' <u>PSGPRS</u> attach while IMSI attached'
			Mobile identity = IMSI
24			Attach result - 'Combined PS / IMSI attached'
27			Mobile identity P-TMSI-1
			P-TMSI signature
			Mobile identity = TMSI-1
			Routing area identity = RAI-1
25	->	ATTACH COMPLETE	
26	<-	PAGING TYPE1	Mobile identity = IMSI-1
27	->		Paging order is for CS services
28	<-	RRC CONNECTION SETUP	
29	->	RRC CONNECTION SETUP	
		COMPLETE	
30	->	PAGING RESPONSE	Mobile identity = TMSI-1
31	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
32	- >		disconnection of the CS signalling link.
52		COMPLETE	
33	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
33a	->	RRC CONNECTION REQUEST	
33b	<-	RRC CONNECTION SETUP	
33C	->		
34	->	SERVICE REQUEST	Service type = "paging response"
34a	<-	RRC CONNECTION RELEASE	
34b	->	RRC CONNECTION RELEASE	
		COMPLETE	
35	UE		The UE is switched off or power is removed
26			(See IUS).
30	->	DETACH REQUEST	Detach type = 'power switched off combined
			PS / IMSI detach'

#### Specific message contents

None.

## 12.2.2.8.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the conditions described below.

Case1) A combined PS attach procedure is rejected with the attempt counter less than five

At step6, 9, 12 and 15, when the timer T3311 timeout has occurred, UE shall:

- repeat the combine PS attach procedure.

Case2) A combined PS attach procedure is rejected with the attempt counter five

At step21, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

Case3) The T3302 expires

At step23, UE shall:

re-initiate the new combined PS attach procedure.

At step30, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step34, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

#### 12.2.2.9 Combined PS attach / abnormal cases / PS detach procedure collision

- 12.2.2.9.1 Definition
- 12.2.2.9.2 Conformance requirement
  - When a DETACH REQUEST message is received by the UE (any cause except re-attach) while waiting for an ATTACH ACCEPT message or ATTACH REJECT message, the UE shall terminate the combined PS attach procedure and continue with the combined PS detach procedure.
  - 2) When a DETACH REQUEST message is received by the UE (cause re-attach) while waiting for an ATTACH ACCEPT message or ATTACH REJECT message, the UE shall ignore the combined PS detach procedure and continue with the combined PS attach procedure.

#### Reference

3GPP TS 24.008 clause 4.7.3.2.

12.2.2.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.2.2.9.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has valid TMSI, P-TMSI, P-TMSI signature and RAI. UE is Idle Updated.

#### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No

Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

Re-attach automatically when the network commands a detach with no cause value Yes/No

#### Test procedure

The UE initiates a combined PS attach procedure. The SS does not answer the combined PS attach procedure, but initiates a combined PS detach procedure (any cause except re-attach). The UE shall terminate the combined PS attach procedure and continue with the combined PS detach procedure.

The UE initiates a combined PS attach procedure. The SS does not answer the combined PS attach procedure, but initiates a combined PS detach procedure (cause re-attach). The UE shall ignore the combined PS detach procedure and continue with the combined PS attach. CS services are also possible.

# Expected Sequence

Step	Direction	Message	Comments
1	UE		The UE is set in UE operation mode A (see
2			The LIE is powered up or switched on and
2	UE		initiates an attach (see ICS)
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
-			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
4	SS		The SS ignores the ATTACH REQUEST
_		DETAOLIDEOLIEOT	message and initiates a detach procedure.
5	<-		Detach type = 're-attach not required'
7	->	(void)	
8		(void)	
9	UE		The UE is attached by MMI or AT command_if
			the UE does not re-attach automatically upon
			receiving a network initiated detach with no
4.0			<u>cause value, (see IXIT).</u>
10	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			$P_{TMSI-1} = P_{TMSI-1}$
			Routing area identity = RAI-1
11	SS		The SS ignores the ATTACH REQUEST
			message and initiates a detach procedure.
12	<-	DETACH REQUEST	Detach type = 're-attach required'
13	UE		The UE ignores the DETACH REQUEST
			message and continue with the attach
14	-		procedure Attach result – 'Combined PS / IMSI attached'
14	<		Mobile identity = $P-TMSI-2$
			P-TMSI-2 signature
			Mobile identity = TMSI-2
			Routing area identity = RAI-1
15	->	ATTACH COMPLETE	
16	<-	PAGING TYPE1	Mobile identity = 1MSI-2
17	- >		Paging order is for CS services.
18		RRC CONNECTION SETUP	
19	->	RRC CONNECTION SETUP	
		COMPLETE	
20	->	PAGING RESPONSE	Mobile identity = TMSI-2
21	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
20			disconnection of the CS signalling link.
22	->		
23	٤-	PAGING TYPE1	Paging order is for PS services
			Mobile identity = $P$ -TMSI-2
23a	->	RRC CONNECTION REQUEST	
23b	<-	RRC CONNECTION SETUP	
23c	->	RRC CONNECTION SETUP	
04			Convice type "peging recreated"
24	->	BRC CONNECTION DELEASE	Service type = paging response
24a 24h	->	RRC CONNECTION RELEASE	
2.10		COMPLETE	
25	UE		The UE is switched off or power is removed
			(see ICS).
26	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined
			HO / IIVIOI detach

Specific message contents

None.

12.2.2.9.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the Detach type described below.

Case1) Detach type is not re-attach

At step6, UE shall:

- respond to DETACH REQUEST message by sending DETACH ACCEPT message.

Case2) Detach type is re-attach

At step13, UE shall:

- ignore the PS detach procedure.

At step15, UE shall:

- send the ATTACH COMPLETE message.

At step20, when the UE receives the paging message for CS domain, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step24, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

#### 12.3.1.4 PS detach / abnormal cases / GMM common procedure collision

- 12.3.1.4.1 Definition
- 12.3.1.4.2 Conformance requirement

When any of the GMM common messages P-TMSI REALLOCATION COMMAND, GMM STATUS or GMM INFORMATION is received by the UE while waiting for a DETACH ACCEPT message with detach cause different from "power off", the UE shall ignore the GMM common message.

#### Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.4.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.4.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

Test procedure

The following test procedure is repeated for sequence counter k = 1,2,3:

The UE performs a PS attach.

The UE initiates a PS detach. The SS initiates a P-TMSI REALLOCATION COMMAND message (k=1), a GMM STATUS message (k=2) and a GMM INFORMATION message (k=3). The UE shall ignore the GMM common messages and continue with the PS detach procedure.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

#### **Expected Sequence**

The test sequence is repeated for  $k = 1 \dots 3$ 

Step	Direction	Message	Comments
-	UE SS	_	
1	UE		The UE is set in UE operation mode C (see ICS).
2	UE		The UE is powered up or switched on and
3	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
4	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Bouting cross identity = PAL 1
5	- >		Routing area identity = RAI-1
6	UE		The UE initiates a detach (without power off) by MMI or AT command
7 8 <u>A</u> (k=1)	-> SS	DETACH REQUEST	Detach type = 'normal detach, PS detach' The SS sends a P-TMSI REALLOCATION COMMAND message
$9\underline{A}$ (k=2)	<-	P-TMSI REALLOCATION	
10A (k=3)	UE		The UE ignores the message. This is verified for 12 seconds
$\frac{(k=0)}{8B}$	SS		The SS sends a GMM STATUS message
$\frac{(k-2)}{9B+2}$	<-	GMM STATUS	
$\frac{(k=2)}{10C_{13}}$	UE		The UE ignores the message. <u>This is verified</u>
$\frac{(k=2)}{8C_{14}}$	SS		The SS sends a GMM INFORMATION
$\frac{(k-3)}{9C^{15}}$	<-	GMM INFORMATION	inessaye
$\frac{(k=3)}{10C^{16}}$ (k=3)	UE		The UE ignores the message <u>which is verified</u> for 12 seconds or if GMM INFORMATION
			message not implemented, sends a GMM STATUS with GMM Cause 'Message type non- existent or not implemented'.
<u> 1711</u>	<-	DETACH ACCEPT	The SS responds to the DETACH REQUEST
<del>18<u>12</u></del>	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
<del>19<u>13</u></del>	UE		Paging order is for PS services. No response from the UE to the request. This is checked for 10 seconds.

#### Specific message contents

None.

#### 12.3.1.4.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

# At step10<u>A</u>, <u>10B</u><u>13</u>, <u>10C</u><u>16</u> and <u>13</u><u>19</u>, when any of the GMM common messages P-TMSI REALLOCATION COMMAND, GMM STATUS or GMM INFORMATION is received by the UE while waiting for a DETACH ACCEPT message with detach cause different from "power off, UE shall:

- ignore any of the GMM common message.

# 

# 12.3.1.6 PS detach / accepted / PS/IMSI detach

12.3.1.6.1 Definition

12.3.1.6.2 Conformance requirement

The UE detach the IMSI for PS and non-PS services.

#### Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.6.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.1.6.4 Method of test

Initial condition

System Simulator:

- One cell operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

#### Related ICS/IXIT statements

- Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

User requested combined PS and non-PS detached without powering off Yes/No

#### Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE sends a DETACH REQUEST message to the SS. When the UE receives the DETACH ACCEPT, the UE then deletes the logical link.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

**Expected Sequence** 

Step	Direction	Message	Comments
-	UE SS		
1	UE		The UE is set in UE operation mode A(see
_			ICS).
2	UE		The UE is powered up or switched on and
2			Initiates an attach (see ICS).
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			TMSI status – no valid TMSI available
4	٤-	ΑΤΤΑCΗ ΑССЕРТ	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Mobile identity = TMSI-1
			Routing area identity = RAI-1
5	->	ATTACH COMPLETE	
6	UE		The UE initiates a detach (without power off) by
_			MMI or AT command.
7	->	DETACH REQUEST	Detach type = 'normal detach, combined PS /
0	_		INSI detach
0	<-		Mobile identity – D TMSL 1
9	<-		Paging order is for PS services
10	ПЕ		No response from the LIE to the request This
10	<u>UL</u>		is checked for 10 seconds.
11	<-	PAGING TYPE1	Mobile identity = IMSI
			Paging order is for CS services.
12	UE		The UE shall not initiate an RRC connection.
			This is checked during 3 seconds.

#### Specific message contents

None.

## 12.3.1.6.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step10, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step12, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

# 12.3.1.7 PS detach / accepted / IMSI detach

- 12.3.1.7.1 Definition
- 12.3.1.7.2 Conformance requirement

The UE shall detach for CS services.

# Reference

3GPP TS 24.008 clause 4.7.4.1.

#### 12.3.1.7.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.1.7.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

- The UE has a valid IMSI.

#### Related ICS/IXIT statements

 Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No <u>MMI controlled attach / detach procedures for non PS services Yes/No</u>

User requested non-PS detached Yes/No

#### Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE performs an PS detach (for non-PS services).

CS services are not possible.

The UE attach for non-PS services by a routing area update procedure and CS services are again possible.

# Expected Sequence

Step	Direction	Message	Comments
1	UE		The UE is set in UE operation mode A (see
			ICS).
2	UE		The UE is powered up or switched on and initiates an attach (see ICS)
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
4	<i>L</i> -		IMSI status = no valid IMSI available
-			Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Routing area identity = $RAI-1$
5	->	ATTACH COMPLETE	
6	UE		The UE initiates a detach for non-PS services
7	->	DETACH REQUEST	Detach type = 'normal detach, IMSI detach'
8	<-	DETACH ACCEPT	
9	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
9a	->	RRC CONNECTION REQUEST	
9b	<-	RRC CONNECTION SETUP	
9c	->		
10	->	SERVICE REQUEST	service type = "paging response"
100			
10a 10b	->	RRC CONNECTION RELEASE	
		COMPLETE	
11	<-	PAGING TYPE1	Mobile identity = IMSI-1 Paging order is for CS services
			Paging order is for RRC connection.
12	UE		The UE shall not initiate an RRC connection.
13	UE		The UF initiates an attach for non-PS services
			by a RA update procedure (see ICS).
14	->	ROUTING AREA UPDATE	Update type = <u>"Combined RA/LA updating with</u>
		REQUEST	P-TMSI-1 signature
			Routing area identity = RAI-1
15	<-		Update result = 'Combined RA/LA updated'' Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Mobile identity = TMSI-1
16	->	ROUTING AREA UPDATE	Routing area identity = RAI-1
_		COMPLETE	
17	<-	PAGING TYPE1	Mobile identity = TMSI-1
18	->	RRC CONNECTION REQUEST	
19	<-	RRC CONNECTION SETUP	
20	->	COMPLETE	
21	->	PAGING RESPONSE	Mobile identity = TMSI-1
22	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
23	->	RRC CONNECTION RELEASE	
		COMPLETE	
24	UE		I he UE is switched off or power is removed (see ICS)
25	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined PS / IMSI detach'

Specific message contents

None.

12.3.1.7.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step10, after the detach procedure (Detach type = 'normal detach, IMSI detach') is completed, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step12, after the detach procedure (Detach type = 'normal detach, IMSI detach') is completed, UE shall:

- not respond to the paging message for CS.

At step21, after the routing area updating procedure (Update type = 'Combined RA/LA updating') is completed, UE shall:

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

#### 12.3.1.8 PS detach / abnormal cases / change of cell into new routing area

12.3.1.8.1 Definition

#### 12.3.1.8.2 Conformance requirement

When a change of cell into a new routing area is performed before DETACH ACCEPT message is received by the UE, the UE shall abort the PS detach procedure and re-initiate it after the routing area update procedure.

#### Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.8.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

User requested combined PS and non-PS detached without powering off Yes/No

#### Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE initiates a PS detach procedure. The DETACH ACCEPT message is delayed from the SS.

The UE performs a cell update into a new routing area.

The UE shall re-initiate a PS detach procedure when the routing area update procedure is finished.

The UE deletes the logical link.

Expected Sequence

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall be
			received on cell A.
1	SS		The SS activates cell A. Set the cell type of cell
-			A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			(note)
2	UF		The UE is set in UE operation mode A (see
-			
3	UE		The UE is powered up or switched on and
-			initiates an attach (see ICS). Cell A is preferred
			by the UF
4	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
•			Mobile identity = $IMSI$
			TMSI status = no valid TMSI available
5	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
-			Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Mobile identity = $TMSI-1$
			Routing area identity = $RAI-1$
6	->	ATTACH COMPLETE	
7	UE		The UE initiates a PS detach (without power
-			off) by MMI or AT command.
8	->	DETACH REQUEST	Detach type = 'normal detach, combined PS /
°,			IMSI detach'
9	SS		No response to the DETACH REQUEST
÷			message is given by the SS
			The following messages are sent and shall be
			received on cell B.
10	SS		The SS deactivates cell A and activates cell B.
			Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
			(note)
			Cell B is preferred by the UE.
11	UE		The UE performs a RA update in the new cell.
12	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'
		REQUEST	P-TMSI-1 signature
			Routing area identity = RAI-1
			TMSI status = valid TMSI available or IE
			omitted
13	<-	ROUTING AREA UPDATE	Update result = 'Combined RA/LA updated'
		ACCEPT	
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-4
14	->	ROUTING AREA UPDATE	
		COMPLETE	
	->	DETACH REQUEST	The detach is automatically re-attempted.
15	-		Detach turne - 'normal detach, combined DS /
15	-		Detach type = normal detach, combined PS/
15			IMSI detach'
15 16	<-	DETACH ACCEPT	IMSI detach'

Specific message contents

None.

#### **Release 4**

#### 12.3.1.8.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step12, when a change of cell into a new routing area is performed before DETACH ACCEPT message is received by the UE, UE shall:

- abort a PS detach procedure.
- perform routing area updating procedure.

At step15, when the UE completes a routing area updating procedure, UE shall:

- re-initiate the PS detach procedure.

#### 12.3.1.9 PS detach / abnormal cases / PS detach procedure collision

12.3.1.9.1 Definition

12.3.1.9.2 Conformance requirement

When a DETACH REQUEST is received by the UE while waiting for a DETACH ACCEPT message, the UE shall answer the network initiated PS detach procedure.

#### Reference

3GPP TS 24.008 clause 4.7.4.1.

12.3.1.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.3.1.9.4 Method of test

#### Initial condition

System Simulator:

One cell operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

User requested combined PS and non-PS detached without powering off Yes/No

#### Test procedure

The UE performs a combined PS attach procedure (for PS and non-PS services).

The UE initiates a PS detach. The SS does not answer the detach procedure, but initiates a detach procedure (cause reattach not required). The UE shall continue with the network initiated detach procedure. The UE deletes the logical link.

PS and CS services are not possible.

#### **Expected Sequence**

Step	Direction		Message	Comments
	UE	SS		
1	U	E		The UE is set in UE operation mode A(see ICS).
2	U	E		The UE is powered up or switched on and initiates an attach (see ICS).
3	-	·>	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = IMSI TMSI status = no valid TMSI available
4		<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
5	-	·>	ATTACH COMPLETE	
6	U	E		The UE initiates a PS detach (without power off) by MMI or AT command.
7	-	·>	DETACH REQUEST	Detach type = 'normal detach, combined PS / IMSI detach'
8		<-	DETACH REQUEST	Detach type = 're-attach not required'
9	-	·>	DETACH ACCEPT	The UE answers the network initiated detach.
10		<-	DETACH ACCEPT	The SS answers the UE initiated detach.
11		<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
12	U	E		No response from the UE to the request. This is checked for 10 seconds
13		<-	PAGING TYPE 1	Mobile identity = TMSI-1 Paging order is for CS services
14	U	E		The UE shall not initiate an RRC connection. This is checked during 3 seconds.

#### Specific message contents

None.

#### 12.3.1.9.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE receives DETACH REQUEST message from SS before UE initiated PS detach procedure has been completed, UE shall:

- send the DETACH ACCEPT message to SS.

At step12, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step14, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

#### 12.3.2.1 PS detach / re-attach not required / accepted

12.3.2.1.1	Definition
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12.3.2.1.2 Conformance requirement

The UE detach the IMSI for PS services.

#### Reference

3GPP TS 24.008 clause 4.7.4.2.

12.3.2.1.3 Test purpose

To test the behaviour of the UE for the detach procedure.

12.3.2.1.4 Method of test

Initial condition

#### System Simulator:

One cell operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid IMSI.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The UE performs a PS attach procedure.

The SS sends a DETACH REQUEST message to the UE. The UE then deletes the logical link.

The SS signal to the UE, but no response is received, as the signalling link is disconnected.

#### **Expected Sequence**

Step	Direction	Message	Comments
	UE SS	]	
1	SS		The SS is set in network operation mode II.
2	UE		The UE is set in UE operation mode A or C
			(see ICS).
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS).
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = IMSI
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
6	->	ATTACH COMPLETE	
7	UE <u>SS</u>		The <u>SS</u> UE initiates a PS detach (without power
			off) by MMI or AT command.
8	<-	DETACH REQUEST	Detach type = 're-attach not required'
9	->	DETACH ACCEPT	
10	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
			Paging order is for PS services.
			PAGING TYPE1 (used for NW-mode II).
11	UE		No response from the UE to the request. This
			is checked for 10 seconds.

#### Specific message contents

None.

# 12.3.2.1.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE receives the DETACH REQUEST message from SS and the detach type IE indicates 're-attach not required', the UE shall:

- send DETACH ACCEPT message to SS.

At step11, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

# 12.3.2.2 PS detach / rejected / IMSI invalid / PS services not allowed

12.3.2.2.1 Definition

12.3.2.2.2 Conformance requirement

- 1) If the network performs a PS detach procedure with the cause 'PS services not allowed', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.
- 2) If the network performs a PS detach procedure with the cause 'PS services not allowed' the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

#### Reference

3GPP TS 24.008 clause 4.7.4.2.

12.3.2.2.3 Test purpose

To test the behaviour of the UE if the network orders a PS detach procedure with the cause 'PS services not allowed' (no valid PS-subscription for the IMSI).

12.3.2.2.4 Method of test

#### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (HPLMN, RAI-1) and cell B in MCC2/MNC1/LAC1/RAC1 (RAI-2). Both cells are operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/NoUSIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS performs a detach with the cause value 'PS services not allowed'. The SS checks that the UE does not perform PS attach in another PLMN.
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# Expected Sequence

Step	Direction UE SS	Message	Comments
1	SS		The following messages are sent and shall be received on cell A. The SS activates cell A. Set the cell type of cell <u>A to the "Serving cell".</u> Set the cell type of cell B to the "Off cell".
2	UE		(note) The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported,
3	UE		The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature
5	<-	ATTACH ACCEPT	Routing area identity = RAI-1 Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
6 7	-> <-	ATTACH COMPLETE DETACH REQUEST	Detach type = 're-attach not required'
8	->	DETACH ACCEPT	Cause = F3 services not allowed
9	SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B-Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
10	UE		(note) Cell B is preferred by the UE. Step 11 is only performed for UE Operation
11	UE	Registration on CS	Mode A. See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is IMSI
12			The UE initiates an attach automatically (see
13	UE		PICSICS), by MMI or AT commands. No ATTACH REQUEST sent to the SS
14	UE		(SS waits 30 seconds). If possible (see ICS) USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
15	UE		The UE gets the USIM replaced, is powered up or switched on and initiates an attach (see ICS).
16	->	ATTACH REQUEST	Attach type = 'PS attach'
17	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-1 P-TMSI-1 signature
18 19	-> UE	ATTACH COMPLETE	The UE is switched off or power is removed
20	->	DETACH REQUEST	(see ICS). Message not sent if power is removed. Detach type = 'power switched off. PS detach'
21			Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note)The SS deactivates cell B and activates cell A.

	22	UE	The UE is set in UE operation mode A (see ICS) and the test is repeated from step 3 to step 18.					
Ì	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radi							
	Conditions for signalling test cases only".							

## Specific message contents

None.

## 12.3.2.2.5 Test requirements

At step4 and 15, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the UE receives the DETACH REQUEST message (Detach type = 're-attach not required', Cause = 'PS services not allowed') from SS, UE shall:

- send DETACH ACCEPT message.

At step13, UE shall:

- not perform PS attach procedure.

# 12.3.2.5 PS detach / rejected / location area not allowed

- 12.3.2.5.1 Definition
- 12.3.2.5.2 Conformance requirement
  - 1) If the network performs a PS detach procedure with the cause 'location area not allowed' the User Equipment shall:
    - 1.1 not perform combined PS attach when in the same location area.
    - 1.2 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.
    - 1.3 store the LA in the 'forbidden location areas for regional provision of service'.
  - 2) If the network performs a PS detach procedure with the cause 'location area not allowed' the User Equipment shall:
    - 2.1 perform combined PS attach when a new location area is entered.
    - 2.2 delete the list of forbidden LAs when power is switched off.

#### Reference

3GPP TS 24.008 clauses 4.7.4.2.

#### 12.3.2.5.3 Test purpose

To test the behaviour of the UE if the network orders the PS detach procedure with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

#### 12.3.2.5.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC2 (RAI-2, Not HPLMN), cell B in MCC2/MNC1/LAC1/RAC2 (RAI-7, Not HPLMN), cell C in MCC2/MNC1/LAC2/RAC1 (RAI-6, Not HPLMN). HPLMN). All cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

#### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

## Test procedure

The SS orders a PS detach with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform combined PS attach while in the location area, performs PS attach when a new location area is entered and deletes the list of forbidden LAs when switched off. CS services are not possible unless an IMSI attach procedure is performed.

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Different types of UE may use different methods to periodically clear the list of forbidden location areas (e.g. every day at 12am). If the list is cleared while the test is being run, it may be necessary to re-run the test.

# Expected Sequence

Step	Direction	Message	Comments
	UE SS		The following measures are cent and shall be
1	SS		The SS activates cell A. Set the cell type of cell
			A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Off cell".
2			(note) The UE is set in UE exerction mode A (ass
2	UE		ICS)
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			TMSI status = no valid TMSI available
5	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Mobile Identity = 1MSI-1 Routing area identity = RAI-2
6	->	ATTACH COMPLETE	Routing area identity = RAF2
7	<-	DETACH REQUEST	Detach type = 're-attach not required'
-			Cause 'Location Area not allowed'
8	->	DETACH ACCEPT	
9	UE		NO LOCATION UPDATING REQ with type
			(SS waits 30 seconds).
10	<-	PAGING TYPE1	Mobile identity = TMSI-1
			Paging order is for CS services.
11	UE		The UE shall not initiate an RRC connection.
12			This is checked during 3 seconds.
12			Paging order is for PS services.
13	UE		No response from the UE to the request.
			This is checked for 10 seconds
			The following messages are sent and shall be
14	SS		The SS deactivates cell A and activates cell
	00		B.Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
. –			(note)
15 16	UE		Cell B is preferred by the UE.
10	UL		MMI or by AT command.
17	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds)
18	UE		NO LOCATION UPDATING REQ with type
			(SS waits 30 seconds).
19	<-	PAGING TYPE1	Mobile identity = TMSI-1
			Paging order is for CS services.
20	UE		The UE shall not initiate an RRC connection.
21	/-	PAGING TYPE1	mis is checked during 3 seconds. Mobile identity - P-TMSL1
<u>د</u> ۱	~-		Paging order is for PS services.
22			No response from the UE to the request.
			This is checked for 10 seconds
			The following messages are sent and shall be
23	22		The SS deactivates cell B and activates cell
20	00		<del>C.</del> Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Serving cell".
<i></i>			(note)
24	UE	l	Cell C is preferred by the UE.

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Step	Direction	Message	Comments
			Step 25 is only performed for non-auto attach
25		Pogistration on CS	UE.
25	UE		Parameter mobile identity is IMSI. The UE initiates an attach automatically (See
27	->	ATTACH REQUEST	ICS), by MMI or AT command. Attach type = 'Combined PS / IMSI attach'
			TMSI status = no valid TMSI available
28	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI1 P-TMSI-1 signature Mobile identity = TMSI-1 Routing area identity = RAL6
29	->	ATTACH COMPLETE	Routing area identity = RAPO
30	<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
31	->	RRC CONNECTION REQUEST	
32	<- ->	RRC CONNECTION SETUP	
		COMPLETE	
34 35	-> <-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for disconnection of the CS signalling link
36	->	RRC CONNECTION RELEASE	
37	<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services
38	->	RRC CONNECTION REQUEST	
39	<-	RRC CONNECTION SETUP	
40	->	COMPLETE	
41	->	SERVICE REQUEST	service type = "paging response"
42 43	<- ->	RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETE	
44	UE		The UE is switched off or power is removed
45	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, combined PS / IMSI detach'
46	UE		The following messages are sent and shall be received on cell B. The SS deactivates cell C and activates cell B. Set the cell type of cell B to the "Serving cell". Set the cell type of cell C to the "Off cell".
47	UE		(note) Cell B is preferred by the UE. The UE is powered up or switched on and initiates an attach (see ICS). Step 48 is only performed for non-auto attach
48	UE	Registration on CS	See TS34.108
49	UE		Parameter mobile identity is TMSI-1 UE initiates an attach automatically (see
50	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature
51	<-	ATTACH ACCEPT	Routing area identity = RAI-6 TMSI status = valid TMSI available Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Mobile identity = TMSI-2 Routing area identity = RAI-7

SS	-	
·>	ATTACH COMPLETE	
<-	PAGING TYPE1	Mobile identity = TMSI-2
		Paging order is for CS services.
·>	RRC CONNECTION REQUEST	
<-	RRC CONNECTION SETUP	
>	RRC CONNECTION SETUP	
	COMPLETE	
·>	PAGING RESPONSE	Mobile identity = 1MSI-2
<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
	RRC CONNECTION RELEASE	
-	COMPLETE	
<-	PAGING TYPE1	Mobile identity = P-TMSI-2
		Paging order is for PS services.
>	RRC CONNECTION REQUEST	
-	RRC CONNECTION SETUP	
>	RRC CONNECTION SETUP	
	COMPLETE	
·>	SERVICE REQUEST	service type = "paging response"
:-	RRC CONNECTION RELEASE	
>	RRC CONNECTION RELEASE	
	COMPLETE	
E		The UE is switched off or power is removed
		(see ICS).
·>	DETACH REQUEST	Message not sent if power is removed.
		Detach type = 'power switched off, combined
n Maria -	for "Off coll" and "Conving coll" and	
nitions	for "Off cell" and "Serving cell" are s	pecified in 1534.108 clause6.1 "Reference Radio
	<pre></pre>	<ul> <li>PAGING TYPE1</li> <li>PAGING TYPE1</li> <li>RRC CONNECTION REQUEST RRC CONNECTION SETUP COMPLETE</li> <li>PAGING RESPONSE</li> <li>RRC CONNECTION RELEASE</li> <li>RRC CONNECTION RELEASE</li> <li>RRC CONNECTION RELEASE</li> <li>RRC CONNECTION REQUEST</li> <li>RRC CONNECTION SETUP COMPLETE</li> <li>RRC CONNECTION SETUP</li> <li>RRC CONNECTION SETUP</li> <li>RRC CONNECTION SETUP</li> <li>RRC CONNECTION SETUP</li> <li>RRC CONNECTION RELEASE</li> <li>RRC CONNECTION RELEASE</li> <li>RRC CONNECTION RELEASE</li> <li>DETACH REQUEST</li> <li>nitions for "Off cell" and "Serving cell" are sons for signalling test cases only".</li> </ul>

Specific message contents

None.

#### 12.3.2.5.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the UE receive the DETACH REQUEST message (Detach type = 're-attach not required', Cause = 'Location Area not allowed') from SS, UE shall:

- send the DETACH ACCEPT message.

UE shall perform the following action depending on UE location.

- 1) UE is in the same location area.
  - At step9 and 18, UE shall:
  - not perform location updating procedure.

At step11 and 20, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for PS domain.
- At step13 and 22, when the UE receives the paging message for PS domain, UE shall:
- not respond to the paging message for PS domain.

At step17, UE shall;

- not perform PS attach procedure.

2) UE is in the new location area.

At step27, UE shall;

- perform the combined PS attach procedure.
- At step34, when the UE receives the paging message for CS domain with Mobile identity = IMSI, UE shall;
- respond to the paging message for CS domain by sending the PAGING RESPONSE message.
- At step41, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:
- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step50, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence

At step57, when the UE receives the paging message for CS domain with Mobile identity = IMSI, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step64, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

# 12.3.2.6 PS detach / rejected / No Suitable Cells In Location Area

12.3.2.6.1 Definition

## 12.3.2.6.2 Conformance requirement

- 1. If the network performs a PS detach procedure with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
  - 1.1 delete the stored LAI, CKSN, TMSI, RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.2 store the LA in the 'forbidden location areas for roaming'.

#### Reference

3GPP TS 24.008 clauses 4.7.4.2.

12.3.2.6.3 Test purpose

To test the behaviour of the UE if the network sends the DETACH REQUEST message with the cause 'No Suitable Cells In Location Area'.

# 12.3.2.6.4 Method of test

Initial condition

#### System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

All three cells are operating in network operation mode II.

#### User Equipment:

The UE has valid IMSI.

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS sends a DETACH REQUEST message with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall not perform combined PS attach while in the same location area on the same PLMN. The SS checks that the UE shall perform PS attach when the UE enters a suitable cell in a different location area on the same PLMN.

## **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
	SS		The SS activates three cells simultaneously.
			Set the cell type of cell A to the "Serving cell
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			(note)
			The SS configures power level of each Cell
			follows.
			Cell A > Cell B = Cell C
1	UE		The UE is set in UE operation mode A (see
			ICS).
2	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is prefer
			by the UE.
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attache
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Mobile identity = TMSI-1
			Routing area identity = RAI-1
5	->	ATTACH COMPLETE	
6	<-	DETACH REQUEST	Detach type = 're-attach not required'
			Cause 'No Suitable Cells In Location Area'
7	->	DETACH COMPLETE	
			The following message are sent and shall be
			received on cell B.
8	UE		The UE initiates an attach automatically, by
			MMI or by AT command.
9	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available
10	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attache
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Mobile identity = TMSI-2
			Routing area identity = RAI-•
11	->	ATTACH COMPLETE	
12	UE		The UE is switched off or power is removed
			(see ICS).
		DETAGLIDEOUEOT	Manager and washing and the second to be as a second
13	->	DETACH REQUEST	iviessage not sent if power is removed.

"Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.3.2.6.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

# 12.4 Routing area updating procedure

This procedure is used to update the actual routing area of an UE in the network.

# 12.4.1 Normal routing area updating

The routing area updating procedure is a GMM procedure used by PS UEs of UE operation mode A or C that are IMSI attached for PS services only.

# 12.4.1.1 Routing area updating / accepted

- 12.4.1.1.1 Definition
- 12.4.1.1.2 Conformance requirement
  - 1) If the network accepts the routing area updating procedure and reallocates a P-TMSI, the UE shall acknowledge the new P-TMSI and continue communication with the new P-TMSI.
  - 2) If the network accepts the routing area updating procedure from the UE without reallocation of the old P-TMSI, the UE shall continue communication with the old P-TMSI.

# Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.1.3 Test purpose

To test the behaviour of the UE if the network accepts the routing area updating procedure.

The following cases are identified:

- 1) P-TMSI / P-TMSI signature is reallocated.
- 2) Old P-TMSI / P-TMSI signature is not changed.
- 12.4.1.1.4 Method of test

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUE operation mode CYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

- The UE sends a ROUTING AREA UPDATE REQUEST message. The SS reallocates the P-TMSI and returns ROUTING AREA UPDATE ACCEPT message with a new P-TMSI. The UE acknowledge the new P-TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE - SS is performed by the new P-TMSI. The UE will not answer signalling addressed to the old P-TMSI.
- The UE sends a ROUTING AREA UPDATE REQUEST message. The SS accepts the P-TMSI and returns ROUTING AREA UPDATE ACCEPT message without any P-TMSI. Further communication UE - SS is performed by the P-TMSI.

**Expected Sequence** 

Step	Direction	Message	Comments
	UE SS		
1	SS		The following messages are sent and shall be received on cell A.
			A to the "Serving cell". Set the cell type of cell B to the "Suitable neighbour cell".
2	UE		(note) The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported, goto step 22
3	UE		The UE is powered up or switched on and initiates an attach (see ICS)
4	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature
6	->	ATTACH COMPLETE	Routing area identity = RAI-1
7	SS		The following messages are sent and shall be received on cell B. Activate cell B with a lower signal strength than
			Cell A The RF level of cell A is lowered until cell         B is preferred by the UE. Set the cell type of         cell A to the "Suitable neighbour cell".         Set the cell type of cell B to the "Serving cell".         (note)
8	->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAL1
9	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4
10	->	ROUTING AREA UPDATE COMPLETE	
11	<-	GMM INFORMATION	Message sent with P-TMSI-1
11b	->	GMM STATUS	Message sent in case the UE does not support reception of GMM information message Cause #97
12	<-	PAGING TYPE1	Mobile identity = P-TMSI-2 PAGING TYPE1 (used for NW-mode II). Paging order is for PS services.

Step	Direction	Message	Comments		
	UE SS				
13	UE		No response from the UE to the request. This		
			is checked for 10 seconds.		
			The following messages are sent and shall be		
			received on cell A.		
14	SS		Set the signal strength of cell A to a lower		
			signal strength than cell B The RF level of cell		
			B is lowered until cell A is preferred by the		
			UE. Set the cell type of cell A to the "Serving		
			<u>Cell".</u>		
			Set the cell type of cell B to the "Suitable		
			neighbour cell".		
45					
15	UE		Cell A is preferred by the UE.		
10	->		D TMSL 1 signature		
		REQUEST	P = 1  MOI-1 Signature		
17	-		No new mobile identity assigned		
17	<		P-TMSI not included		
			I Indate result – 'RA undated'		
			P-TMSI-2 signature		
			Routing area identity = RAI-1		
18	<-	PAGING TYPE1	Mobile identity = $P-TMSI-1$		
			Paging order is for PS services.		
			PAGING TYPE 1 (used for NW-mode II).		
18a	->	RRC CONNECTION REQUEST	, , , , , , , , , , , , , , , , , , , ,		
18b	<-	RRC CONNECTION SETUP			
18c	->	RRC CONNECTION SETUP			
		COMPLETE			
19	->	SERVICE REQUEST	service type = "paging response"		
19a	<-	RRC CONNECTION RELEASE			
19b	->	RRC CONNECTION RELEASE			
		COMPLETE			
20	UE		The UE is switched off or power is removed		
			(see ICS).		
21	->	DETACH REQUEST	Message not sent if power is removed.		
			Detach type = 'power switched off, PS detach'		
22	UE		The UE is set in UE operation mode A (see		
			ICS) and the test is repeated from step 3 to		
			step 21.		
NOTE:T	he definitions	s for "Suitable neighbour cell" and "S	erving cell" are specified in TS34.108 clause6.1		
<u>"F</u>	<u>"Reference Radio Conditions for signalling test cases only".</u>				

# Specific message contents

None.

## 12.4.1.1.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step13, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-2, UE shall:

- not respond to the paging message for PS domain.

# At step16, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step19, when the UE receives the paging message for PS domain with Mobile identity = P-TMSI-1, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

# 12.4.1.2 Routing area updating / rejected / IMSI invalid / illegal ME

12.4.1.2.1 Definition

#### 12.4.1.2.2 Conformance requirement

- 1) If the network rejects a routing area updating procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall consider USIM invalid for PS services until power is switched off or USIM is removed.
- 2) If the network rejects a routing area updating procedure from the User Equipment with the cause 'Illegal ME', the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

#### Reference

3GPP TS 24.008 clause 4.7.5.1.

# 12.4.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'Illegal ME'.

#### 12.4.1.2.4 Method of test

#### Initial condition

#### System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2). All three cells are operating in network operation mode II (in case of UE operation mode A)

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)USIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a routing area updating with the cause value 'Illegal ME'. The SS checks that the UE does not perform PS attach in the same or another PLMN.

# Expected Sequence

Step	Direction UE SS	Message	Comments
			The following messages are sent and shall be
			received on cell A.
1	UE		The UE is set in UE operation mode C (see
2	SS		The SS is set in network operation mode II-and
-			activates cell A.
			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			(note)
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	by the UE. Attach type – 'PS attach'
4		ATTACITICEQUEST	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
-			Routing area identity = RAI-1
5	<-	ATTACHACCEPT	P-TMSI signature not included Attachingluded
			<u>Attach</u> result = 'PS only attached'
			Routing area identity = RAI-1
			The following messages are sent and shall be
6	SS		The SS deactivates cell A and activates cell
Ũ	00		B.Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
7			(note) Coll B is proferred by the UE
7 8	->	ROUTING AREA LIPDATE	Update type = 'RA updating'
U	-	REQUEST	
			Routing area identity = RAI-1
9	<-		GMM cause = 'Illegal ME'
10	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
			PAGING TYPE1 (used for NW-mode II).
11			Paging order is for PS services.
11	UE		is checked for 10 seconds.
			The following messages are sent and shall be
40			received on cell C.
12	55		The SS deactivates cell B and activates cell C Set the cell type of cell B to the "Off cell"
			Set the cell type of cell C to the "Serving cell".
			(note)
13	UE		Cell C is preferred by the UE.
14	UE		(SS waits 30 seconds).
15	UE		If possible (see ICS) USIM removal is
			performed. Otherwise if possible (see ICS)
			switch off is performed. Otherwise the power is
16	UE		The UE gets the USIM replaced, is powered up
			or switched on and initiates an attach (see
160			ICS).
108			mode A
16b	UE	Registration on CS	See TS 34.108
			Parameter mobile identity is IMSI.
17	->	ATTACH REQUEST	Attach type = 'PS attach'
18	<-	АТТАСН АССЕРТ	Attach result = 'PS only attached'
-		-	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-2

19	->	ATTACH COMPLETE					
20	UE		The UE is switched off or power is removed				
21	->	DETACH REQUEST	(see ICS). Message not sent if power is removed. Detach type = 'power switched off, PS detach'				
NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio							
Conditions for signalling test cases only".							

#### Specific message contents

None.

#### 12.4.1.2.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step11, after the routing area updating procedure is rejected with GMM cause = 'Illegal ME', UE shall;

- not respond to the paging message for PS domain.

At step14, UE shall,

- not initiate PS attach procedure.

At step17, after the UE is powered up or USIM is replaced, UE shall;

- initiate the PS attach procedure.
- 12.4.1.3 Routing area updating / rejected / UE identity cannot be derived by the network
- 12.4.1.3.1 Definition

#### 12.4.1.3.2 Conformance requirement

If the network rejects a routing area updating procedure from the User Equipment with the cause 'UE identity cannot be derived by the network', the User Equipment shall delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.

Depending on the manufacturer the UE may or may not perform a PS attach procedure.

#### Reference

3GPP TS 24.008 clause 4.7.5.1.

## 12.4.1.3.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'UE identity cannot be derived by the network'.

# 12.4.1.3.4 Method of test

Initial condition

System Simulator:

1084

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II (in case of UE operation mode A).

## User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Automatic attach procedure when UE identity cannot be derived by the networkYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS rejects a normal routing area updating with the cause value 'UE identity cannot be derived by the network'. The UE detach locally. A new PS attach may be performed.

# Expected Sequence

Step	Direction	Message	Comments
	UE SS		The following measures are cont and shall be
			I ne following messages are sent and shall be
4	00		The SS is get in network energian mode U.S.
1	55		The SS is set in network operation mode II-a
			activates cell A.
			Set the cell type of cell A to the "Serving cell"
			Set the cell type of cell B to the "Off cell".
-			(note)
2	UE		The UE is set in UE operation mode C (see
_			ICS).
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferre
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity =P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
6	->	ATTACH COMPLETE	
			The following messages are sent and shall be
			received on cell B.
7	SS		The SS deactivates cell A and activates cell
			B-Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell"
			(note)
8	UE		Cell B is preferred by the UE.
9	->	ROUTING AREA UPDATE	Update type = 'RA updating'
J	-	REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
10	<-	ROUTING AREA UPDATE	GMM cause = 'UE identity cannot be derived
.0		REJECT	by the network'
11	UE	1120201	If an automatic attach procedure by the LIE is
	02		not possible when the LIE identity cannot be
			derived by the network (see ICS) goto step 19
12			An Automatic PS attach procedure is initiated
12	0L		
10			(See ICO). Attach tupo $-$ 'BS attach'
15	->	ATTACH REQUEST	Mabile identity = IMSI
1.4	_		$\frac{1}{2} \frac{1}{2} \frac{1}$
14	<-	ATTACHACCEPT	Allach result = PS only allached
			Mobile identity = $P - I MSI - I$
			P-IMSI-1 signature
			Routing area identity = RAI-4
15	->		
16	UE		The UE is switched off or power is removed
			(see ICS).
17	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach
18			Stop the sequence
19	<-	PAGING TYPE1	Mobile identity = P-TMSI-2
			PAGING TYPE1 (used for NW-mode II).
			Paging order is for PS services.
	UE		No response from the UE to the request, as the
20			LUE has detected to all the This is the structure of the
20			UE has detached locally. This is checked for
20			Seconds.

Specific message contents

None.

#### 12.4.1.3.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.
- At step9, UE shall;
  - initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the implementation of the UE.

Case 1) UE supports an Automatic PS attach procedure.

- At step13, UE shall;
- initiate the PS attach procedure.
- Case 2) UE does not support an Automatic PS attach procedure.

At step20, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

# 12.4.1.4a Routing area updating / rejected / location area not allowed

12.4.1.4a.1 Definition

#### 12.4.1.4a.2 Conformance requirement

- 1) If the network rejects a routing area updating procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:
  - 1.1 not perform PS attach when in the same location area.
  - 1.2 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.3 store the LA in the 'forbidden location areas for regional provision of service'.
- 2) If the network rejects a routing area updating procedure from the User Equipment with the cause 'location area not allowed' the User Equipment shall:
  - 2.1 perform PS attach when a new location area is entered.
  - 2.2 delete the list of forbidden LAs after switch off (power off).

#### Reference

3GPP TS 24.008 clauses 4.7.5.1.

#### 12.4.1.4a.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure of the UE with the cause 'Location Area not allowed'.

To test that the UE deletes the list of forbidden LAs when power is switched off.

12.4.1.4a.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC2/RAC1 (RAI-3). All cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUE operation mode CYes/NoUSIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The SS rejects a routing area updating with the cause value 'Location Area not allowed'. The SS checks that the UE does not perform PS attach while in the location area, performs PS attach when a new location area is entered and deletes the list of forbidden LAs when switched off.

Different types of UE may use different methods to periodically clear the list of forbidden location areas (e.g. every day at 12am). If the list is cleared while the test is being run, it may be necessary to re-run the test.

# Expected Sequence

Step	Direction	Message	Comments
	UE SS		
	SS		The following messages are sent and shall be
			received on cell C.
1	SS		The SS activates cell C. Set the cell type of cell
			A to the "Off cell".
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the Serving cell .
2	115		The LIE is set in LIE operation mode C (see
2	0L		ICS) If UE operation mode C not supported
			aoto step 33.
3	UE		The UE is powered up or switched on and
-	_		initiates an attach (see ICS). Cell C is preferred
			by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = IMSI
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-IMSI-1
			P-IMSI-1 signature
6	->		Routing area identity = RAI-3
U	-7		The following messages are sent and shall be
			received on cell B.
7	SS		The SS deactivates cell C and activates cell
			B.Set the cell type of cell B to the "Serving
			<u>cell".</u>
			Set the cell type of cell C to the "Off cell".
0	00		(note)
8	55		Cell B is preferred by the UE.
oa			Operation Mode A
8b	UE	Registration on CS	See TS34 108
0.0			Parameter mobile identity is IMSI
9	->	ROUTING AREA UPDATE	Update type = 'RA updating'
		REQUEST	P-TMSI-1 signature
			Routing area identity = RAI-3
10	<-		GMM cause = 'Location Area not allowed'
11	<i>_</i> -		Mohile identity - P-TMSI-1
			PAGING TYPE1 (used for NW-mode II)
			Paging order is for PS services.
12	UE		No response from the UE to the request. This
			is checked for 10 seconds.
			The following messages are sent and shall be
40	00		received on cell A.
13	88		A Set the cell type of cell A to the "Service"
			cell"
			Set the cell type of cell B to the "Off cell"
			(note)
14	UE		Cell A is preferred by the UE.
15	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds)
			The following messages are sent and shall be
16	66		The SS deactivates call A and activates call
10	33		Set the cell type of cell A to the "Off cell"
			Set the cell type of cell C to the "Serving cell"
			(note)
17	UE		Cell C is preferred by the UE.
17a			The following step is only performed for UE
<i>.</i> —-			Operation Mode A.
17b	UE	Registration on CS	See TS34.108
			Parameter mobile identity is IMSI

Step	Direction	Message	Comments
- 10	UE SS		1. I.
18	->	ATTACH REQUEST	Attach type = 'PS attach'
10	-		Attach result - 'PS only attached'
19	<-	ATTACITACCEFT	Mobile identity – $P_TMSL^2$
			P-TMSI-2 signature
			Routing area identity = RAI-3
20	->	ATTACH COMPLETE	
21	UE		If possible (see ICS) USIM removal is
			performed. Otherwise if possible (see ICS)
			switch off is performed. Otherwise the power is
		DETAOL DEOLEOT	removed.
22	->	DETACH REQUEST	Message not sent if power is removed.
22			Detach type = power switched off, PS detach
23	UE		or switched on and initiates an attach (see
			ICS)
24	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-3
25	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-IMSI-1 signature
26	->		Routing area identity = RAI-3
20	SS		The following messages are sent and shall be
	00		received on cell A.
27			The SS deactivates cell C and activates cell
			A.Set the cell type of cell A to the "Serving
			<u>cell".</u>
			Set the cell type of cell C to the "Off cell".
20			( <u>note)</u> Call A is proferred by the UE
_∠o 28a			The following step is only performed for LIE
204			Operation Mode A
28b	UE	Registration on CS	See TS34.108
	_		Parameter mobile identity is IMSI
29	->	ROUTING AREA UPDATE	Update type = 'RA updating'
		REQUEST	P-TMSI-1 signature
			Routing area identity = RAI-3
30	<-	ROUTING AREA UPDATE	No new mobile identity assigned. P-IMSI and
		ACCEPT	P-IMSI signature not includedUpdate result =
			KA upualeu
			Routing area identity = RAI-1
31	UE		The UE is switched off or power is removed
			(see ICS).
32	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach'
33	SS		The SS is set in network operation mode II.
34	UE		The UE is set in UE operation mode A (see
			(ICS), cell A is switched off and the test is
	he definitions	for "Off cell" and "Serving cell" are o	repeated from step 2 to step 32.

Conditions for signalling test cases only".

Specific message contents

None.

12.4.1.4a.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

Release 4

At step9, UE shall:

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

At step12, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step12 and 15, when in the same location area, UE shall

- not perform PS attach procedure.

At step18, when a new location area is entered, UE shall

- perform the PS attach procedure.

At step24, when the USIM is replaced , UE shall;

- perform the PS attach procedure.

At step29, UE shall;

- initiate the routing area updating procedure with the information elements specified in the above Expected Sequence.

# 12.4.1.4b Routing area updating / rejected / No Suitable Cells In Location Area

- 12.4.1.4b.1 Definition
- 12.4.1.4b.2 Conformance requirement
- 1) If the network rejects a routing area updating procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
  - 1.1 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.2 store the LA or the PLMN identity in the 'forbidden location areas for roaming'.
  - 1.3 search for a suitable cell in a different location area on the same PLMN.

# Reference

3GPP TS 24.008 clauses 4.7.5.1.

12.4.1.4b.3 Test purpose

To test the behaviour of the UE if the network rejects the routing area updating procedure with the cause 'No Suitable Cells In Location Area'.

To test that the UE deletes the list of forbidden LAs when power is switched off'.

# 12.4.1.4b.4 Method of test

Initial condition

System Simulator:

Four cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell D in MCC1/MNC1/LAC1/RAC2 (RAI-4),

All three cells are operating in network operation mode II.

User Equipment:

The UE has valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUSIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS rejects a routing area updating with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

# **Expected Sequence**

	UF SS	message	Comments
	<u> </u>		The following message are sent and shall b
			Ine following message are sent and shall b
1	66		The SS estivates cell D.
I			Set the cell type of cell A to the "Suitchle
			Set the cell type of cell A to the Suitable
			neighbour cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			Set the cell type of cell D to the "Serving cell
			(note)
2	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell D is prefe
			by the UE.
3	->	ATTACH REQUEST	Attach type = 'PS attach'
0	-		Mobile identity $= IMSI$
4			Attach result - 'PS only attached'
4	<-	ATTACITACCEFT	Mabile identity D TMS 1
			Nobile identity = $P - 1 \text{ MSI-1}$
			P-1MSI-1 signature
-			Routing area identity = RAI-4
5	->		
6	SS		The SS deactivates Cell D and activates Ce
			Cell B and Cell C.
			Set the cell type of cell A to the "Serving cel
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			Set the cell type of cell C to the "Suitable neighbour cell".
			Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable
			Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable neighbour cell".
			Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable neighbour cell". (note)
			Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable neighbour cell". (note) The SS configures power level of each Cell
			Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows
			Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C
			Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the LIE
7			Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Undets type = 'BA undeting'
7	->	ROUTING AREA UPDATE	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'
7	->	ROUTING AREA UPDATE REQUEST	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Data for the set of the set
7	->	ROUTING AREA UPDATE REQUEST	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4
7	->	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location
7	->	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'
7 8	-> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating' P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b
7 8	-> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell". (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.
7 8 9	-> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'
7 8 9	->	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell". (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating' P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach' Mobile identity = IMSI
7 8 9 10	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'
7 8 9 10	-> <- -> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A > Cell B = Cell C         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'         Mobile identity = P-TMSI-2
7 8 9 10	-> <- -> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'         Mobile identity = P-TMSI-2         P-TMSI-2 signature
7 8 9 10	-> <- -> <-	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'         Mobile identity = P-TMSI-2         P-TMSI-2 signature         Routing area identity = PAI 2
7 8 9 10	-> <- ->	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating'         P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'         Mobile identity = P-TMSI-2         P-TMSI-2 signature         Routing area identity = RAI-3
7 8 9 10	-> <>	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT	Set the cell type of cell C to the "Suitable neighbour cell". Set the cell type of cell D to the "Suitable neighbour cell". (note) The SS configures power level of each Cell follows. Cell A > Cell B = Cell C Cell A is preferred by the UE. Update type = 'RA updating' P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'No Suitable Cells In Location Area' The following message are sent and shall b received on cell D. Attach type = 'PS attach' Mobile identity = IMSI Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-3
7 8 9 10 11 12	-> <> ->	ROUTING AREA UPDATE REQUEST ROUTING AREA UPDATE REJECT ATTACH REQUEST ATTACH ACCEPT ATTACH COMPLETE DETACH REQUEST	Set the cell type of cell C to the "Suitable neighbour cell".         Set the cell type of cell D to the "Suitable neighbour cell".         (note)         The SS configures power level of each Cell follows.         Cell A > Cell B = Cell C         Cell A is preferred by the UE.         Update type = 'RA updating' P-TMSI-1 signature         Routing area identity = RAI-4         GMM cause = 'No Suitable Cells In Location Area'         The following message are sent and shall b received on cell D.         Attach type = 'PS attach'         Mobile identity = IMSI         Attach result = 'PS only attached'         Mobile identity = P-TMSI-2         P-TMSI-1 signature         Routing area identity = RAI-3

# Specific message contents

None.

# 12.4.1.4b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, UE shall;

- initiate the routing area updating procedure.

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

# 12.4.1.5 Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes

12.4.1.5.1 Definition

#### 12.4.1.5.2 Conformance requirement

When a routing area updating procedure is rejected with the attempt counter less than five, the UE shall repeat the routing area updating procedure after T3330 timeout.

When a T3330 timeout has occurred during a routing area updating procedure with the attempt counter five, the UE shall start timer T3302.

When the T3302 expire, a new routing area updating procedure shall be initiated.

#### Reference

3GPP TS 24.008 clause 4.7.5.1.

12.4.1.5.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

12.4.1.5.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). The ATT-flag shall indicate that the MS should use IMSI attach/detach procedures. Both cells are operating in network operation mode II (in case of UE operation mode A).

Both cells are operating in network operation mode II (in case of UE operation mode A).

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure (attempt counter zero).

The SS rejects the routing area updating procedure with a <u>GMM cause 'congestion' coderandom cause code</u>.

The UE initiates a new routing area updating procedure (attempt counter one) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code random cause code.

The UE initiates a new routing area updating procedure (attempt counter two) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' coderandom cause code.

The UE initiates a new routing area updating procedure (attempt counter three) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' coderandom cause code.

The UE initiates a new routing area updating procedure (attempt counter four) after T3311 expires.

The SS rejects the routing area updating procedure with a GMM cause 'congestion' code random cause code.

The UE initiates a new routing area updating procedure with attempt counter five (after T3311 expires).

The SS rejects the routing area updating procedure with a GMM cause 'congestion' coderandom cause code.

The UE shall not perform a new successful routing area updating procedure after T3311 seconds.

The UE initiates a routing area updating procedure with attempt counter zero after T3302 expires with the stored P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 12 minutes.

T3330; set to 15 seconds.

T3311; set to 15 seconds.

# Expected Sequence

Step	Direction	Message	Comments
			The following messages are sent and shall be
			received on cell A.
1	UE		The UE is set in UE operation mode C (see
			ICS).
2	SS		The SS is set in network operation mode II-and
			Activates cell A.
			Set the cell type of cell B to the "Off cell".
			(note)
2a	UE	Registration on CS	See TS 34.108
			mode A
			Parameter mobile identity is TMSI.
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
4			by the UE.
4	->	ATTACIT REQUEST	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	No new mobile identity assigned.
			Attach result = 'PS only attached'
			P-TMSI-2 signature
			Routing area identity = RAI-1
			The following messages are sent and shall be
6	99		The SS deactivates cell A and activates cell
0			B-Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
-			(note)
/ 8	55		Lindate type – 'BA undating'
0	-	REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
9	<-		GMM cause = 'Congestion'
10	SS	REJECT	The SS verifies that the time between the
10			routing area updating requests is 15 seconds
11	->	ROUTING AREA UPDATE	Update type = 'RA updating'
		REQUEST	
			P-IMSI-2 signature Routing area identity - RAI-1
12	<-	ROUTING AREA UPDATE	GMM cause = 'Congestion'
	_	REJECT	, , , , , , , , , , , , , , , , , , ,
13	SS		The SS verifies that the time between the
14	->	ROUTING AREA LIPDATE	Lindate type = 'RA undating'
	-	REQUEST	
			P-TMSI-2 signature
45			Routing area identity = RAI-1
15	<-		GMM cause = Congestion
16	SS		The SS verifies that the time between the
			routing area updating requests is 15 seconds
17	->	ROUTING AREA UPDATE	Update type = 'RA updating'
			P - 1  WOI-2 signature Routing area identity = RAI-1
18	<-	ROUTING AREA UPDATE	GMM cause = 'Congestion'
-		REJECT	J J J J J J J J J J J J J J J J J J J
19	SS		The SS verifies that the time between the
	]	l	routing area updating requests is 15 seconds

Step	Direction	Message	Comments
	UE SS		
20	->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating'
			P-TMSI-2 signature
			Routing area identity = RAI-1
21	<-	ROUTING AREA UPDATE REJECT	GMM cause = 'Congestion'
22	SS		The SS verifies that the UE does not attempt to attach for 10 minutes .
23	SS		The SS shall release the PS signalling
23a	UE	Registration on CS	See TS 34.108
			This step is applied only for UE in UE operation
			Parameter mobile identity is TMSI
24	->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating'
			P-TMSI-2 signature
			Routing area identity = RAI-1
25	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-2
			P-IMSI-3 signature
26			Routing area identity = RAI-4
20	->	COMPLETE	
27	UE		The UE is switched off or power is removed
20			(See ICS). Mossago not cont if nower is removed
20	->	DETACH REQUEST	Detach type = 'power switched off, PS detach'
29	->	IMSI DETACH INDICATION	This step is only performed for UE Operation
			MODE A.
			lavers to perform an IMSI detach
			Message not sent if power is removed
NOTE	he definitions	for "Off cell" and "Serving cell" are	specified in TS34 108 clause6 1 "Peterence Padio

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

# Specific message contents

None.

12.4.1.5.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall:

- perform the routing area updating procedure.

UE shall perform the following actions depending on the conditions described below.

Case 1) At step11, 14, 17 and 20, a routing area updating procedure is rejected from SS with the attempt counter less than five,

UE shall:

- repeat the routing area updating procedure after T3330 timeout

Case2) At step22 a routing area updating procedure is rejected from SS with the attempt counter five

At step22, UE shall:

- not initiate a routing area updating procedure.

Case3) At step24, the T3302 expires

UE shall:

- initiate the new routing area updating procedure
- 12.4.1.6 Routing area updating / abnormal cases / change of cell into new routing area
- 12.4.1.6.1 Definition

#### 12.4.1.6.2 Conformance requirement

When a change of cell into a new routing area is performed before the routing area updating procedure is finished, the UE shall abort the routing area updating procedure and re-initiate it in the new routing area.

#### Reference

3GPP TS 24.008 clause 4.7.5.1.

#### 12.4.1.6.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

# 12.4.1.6.4 Method of test

#### Initial condition

#### System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) and cell C In MCC1/MNC1/LAC1/RAC3 (RAI-5). All cells are operating in network operation mode II (in case of UE operation mode A).

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update into a new routing area. The UE shall re-initiate a routing area updating procedure in the new routing area.

# Expected Sequence

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall be
			received on cell A.
1	UE		The UE is set in UE operation mode C (see
			ICS). If UE operation mode C not supported,
2	22		goto step 18.
2			A to the "Serving cell"
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Off cell".
			(note)
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	by the UE. Attach type – 'PS attach'
-	-		Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-2
			P-IMSI-2 signature
6	->	ATTACH COMPLETE	Routing area identity = RAP
			The following messages are sent and shall be
			received on cell B.
7	SS		The SS deactivates cell A and activates cell
			B.Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
8	88		(note) Cell B is preferred by the LIE
9	->	ROUTING AREA UPDATE	Update type = 'RA updating'
		REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
10	SS		No response to the ROUTING AREA UPDATE
			REQUEST message is given by the SS
			received on cell C
11	SS		The SS deactivates cell B and activates cell
			C.Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Serving cell".
			(note)
12	SS		Cell C is preferred by the UE.
13	->		$P_{TMSI-2}$ signature
			Routing area identity = RAI-1
14	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-2
			P-TMSI-3 signature
45			Routing area identity = RAI-5
15	->		
16	UF		The UE is switched off or power is removed
			(see ICS).
17	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, PS detach'
18	SS		The SS is set in network operation mode II.
19	UE		I ne UE is set in UE operation mode A(see
			type of cell C to the "Off cell" the The test is
			repeated from step 2 to step 17.
NOTE:T	he definitions	s for "Off cell" and "Serving cell" are	specified in TS34.108 clause6.1 "Reference Radio

Conditions for signalling test cases only".

#### Specific message contents

None.

12.4.1.6.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the routing area update procedure.

At step13, when change of cell into a new routing area is performed before the routing area updating procedure is finished, UE shall:

- abort the routing area updating procedure.
- re-initiate new routing area updating procedure in the new routing area.

# 12.4.1.7 Routing area updating / abnormal cases / change of cell during routing area updating procedure

12.4.1.7.1 Definition

#### 12.4.1.7.2 Conformance requirement

When a change of cell within a new routing area is performed before the routing area updating procedure is finished, the UE shall perform the cell update before the routing area updating procedure is finished.

#### Reference

3GPP TS 24.008 clause 4.7.5.1.

# 12.4.1.7.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

#### 12.4.1.7.4 Method of test

Initial condition

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) and cell C in MCC1/MNC1/LAC1/RAC2 (RAI-4). All three cells are operating in network operation mode II.

User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

## Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update within the routing area. The UE then waits for the ROUTING AREA UPDATE ACCEPT message.

# Expected Sequence

Step	Direction	Message	Comments
	UE SS		
1	SS UE		The following messages are sent and shall be received on cell A. The UE is set in UE operation mode C (see
2	66		ICS).
2			activates cell A.
			Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell".
3	UE		The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	by the UE. Attach result = 'PS attach' Mobile identity = P-TMSI-1
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	No new mobile identity assigned. P-TMSI not included
			Attach result = 'PS only attached'
			P-TMSI-2 signature
			The following messages are sent and shall be
			received on cell B.
6	SS		The SS deactivates cell A and activates cell B-Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
7	66		(note)
8	->	ROUTING AREA UPDATE	Update type = 'RA updating'
_		REQUEST	P-TMSI-2 signature
0	22		Routing area identity = RAI-1
9	50		REQUEST message is given by the SS
			The following messages are sent and shall be
10	SS		The SS deactivates cell B and activates cell
			C.Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell".
11	99		(note) Call C is preferred by the UE
12a	->	CELL UPDATE	Cell update cause = 'cell reselection'
12h	<-	CELL UPDATE CONFIRM	
13	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-2
			Routing area identity = RAI-4
14	->	ROUTING AREA UPDATE	
15	UE		The UE is switched off or power is removed
16	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

12.4.1.7.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, UE shall:

- initiate routing area update procedure.

At step12a, when a change of cell within a new routing area is performed, UE shall:

- perform the cell update before the routing area updating procedure is finished.
- 12.4.1.8 Routing area updating / abnormal cases / P-TMSI reallocation procedure collision
- 12.4.1.8.1 Definition
- 12.4.1.8.2 Conformance requirement

When a P-TMSI REALLOCATION COMMAND message is received by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall ignore the P-TMSI reallocation procedure and continue with the routing area updating procedure.

## Reference

3GPP TS 24.008 clause 4.7.5.1.

#### 12.4.1.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

# 12.4.1.8.4 Method of test

#### Initial condition

## System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) and cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II (in case of UE operation mode A).

#### User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode CYes/NoUE operation mode AYes/No (only if mode C not supported)Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a P-TMSI reallocation procedure. The UE shall ignore the P-TMSI reallocation procedure and continue with the routing area updating procedure.

# **Expected Sequence**

Step	Direction	Message	Comments	
	UE SS			
	SS		The following messages are sent and shall be	
			received on cell A.	
1	UE		The UE is set in UE operation mode C (see	
			ICS).	
2	SS		The SS is set in network operation mode II-and	
			<del>activates cell A</del> .	
			Set the cell type of cell A to the "Serving cell".	
			Set the cell type of cell B to the "Off cell".	
-			(note)	
3	UE		The UE is powered up or switched on and	
			initiates an attach (see ICS). Cell A is preferred	
4			by the UE.	
4	->	ATTACH REQUEST	Attach result = 'PS attach'	
			Mobile Identity = IMSI	
5			Attach regult - 'BS only attached'	
5	<-		$Mobile identity = P_TMSI_1$	
			P-TMSI-1 signature	
			Routing area identity = RAI-1	
6	->	ATTACH COMPLETE		
-	-		The following messages are sent and shall be	
			received on cell B.	
7	SS		The SS deactivates cell A and activates cell	
			B.Set the cell type of cell A to the "Off cell".	
			Set the cell type of cell B to the "Serving cell".	
			(note)	
8	SS		Cell B is preferred by the UE.	
9	->	ROUTING AREA UPDATE	Update type = 'RA updating'	
		REQUEST	P-TMSI-1 signature	
			Routing area identity = RAI-1	
10	<-	P-TMSI REALLOCATION	Mobile identity = P-TMSI-1	
		COMMAND	P-IMSI-1 signature	
			Kouting area identity = RAI-1	
11	UE		Ine UE ignores the P-IMSI reallocation	
40	-		Command.	
	<-		$D_{\text{D}}$	
		ACCEFT	P TMSL 2 signature	
			Routing area identity - RAL	
13	-~	ROUTING AREA LIPDATE		
10		COMPLETE		
14	UE		The UE is switched off or power is removed	
			(see ICS).	
15	->	DETACH REQUEST	Message not sent if power is removed.	
-			Detach type = 'power switched off, PS detach'	
NOTE:T	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radic			
Conditions for signalling test cases only".				

Specific message contents

None.

# 12.4.1.8.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step9, UE shall:

- initiate the routing area updating procedure.

At step11, when a P-TMSI REALLOCATION COMMAND message is received from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- ignore the P-TMSI reallocation procedure.
- continue with the routing area updating procedure.

# 12.4.2 Combined routing area updating

The combined routing area updating procedure is a GMM procedure used by PS UEs of UE operation mode A that are IMSI attached for PS and non-PS services. In order to use the combined routing area updating procedure, the network must operate in network operation mode I.

# 12.4.2.1 Combined routing area updating / combined RA/LA accepted

- 12.4.2.1.1 Definition
- 12.4.2.1.2 Conformance requirement
  - 1) If the network accepts the combined routing area updating procedure and reallocates a P-TMSI, the UE shall acknowledge the new P-TMSI and continue communication with the new P-TMSI.
  - 2) If the network accepts the combined routing area updating procedure from the UE without reallocation of the old P-TMSI, the UE shall continue communication with the old P-TMSI.

# Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.1.3 Test purpose

To test the behaviour of the UE if the network accepts the combined routing area updating procedure.

The following cases are identified:

- 1) P-TMSI / P-TMSI signature is reallocated.
- 2) Old P-TMSI / P-TMSI signature is not changed.
- 3) Mobile terminating CS call is allowed with IMSI.
- 4) Mobile terminating CS call is allowed with TMSI.

# 12.4.2.1.4 Method of test

# Initial condition

#### System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

## Test procedure

- A combined PS attach procedure is performed. The UE sends a ROUTING AREA UPDATE REQUEST message. The SS reallocates the P-TMSI, unassigns the TMSI and returns ROUTING AREA UPDATE ACCEPT message with a new P-TMSI and IMSI. The UE acknowledge the new P-TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE - SS is performed by the new P-TMSI. For CS calls, the IMSI is used
- 2) The UE is CS paged in order to verify that the IMSI is used for CS calls.
- 3) A combined PS attach procedure is performed. The UE sends an ROUTING AREA UPDATE REQUEST message. The SS accepts the P-TMSI signature and returns ROUTING AREA UPDATE ACCEPT message without any P-TMSI and with a new TMSI. The UE acknowledge the new TMSI by sending ROUTING AREA UPDATE COMPLETE message. Further communication UE-SS is performed by the old P-TMSI. For CS calls, the new TMSI is used.
- 4) The UE is CS paged in order to verify that the TMSI is used for CS calls.

#### **Expected Sequence**

Step	Direction	Message	Comments
-	UE SS	-	
<u>1</u>	<u>SS</u>		Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
1 <u>a</u>	UE		The UE is set in UE operation mode A (see
2	UE		The UE is powered up or switched on and
-	02		initiates an attach (see ICS).
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity =IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
_			Routing area identity = RAI-1
5	->	ATTACH COMPLETE	
			The following messages are sent and shall be
6	<u> </u>		received on cell B.
0			cell A The PE level of cell A is lowered until cell
			B is preferred by the LIE Set the cell type of cell
			A to the "Suitable neighbour cell".
			Set the cell type of cell B to the "Serving cell".
			(note)
7	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'
		REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
			TMSI status = no valid TMSI available
8	<-	ROUTING AREA UPDATE	Update result = 'Combined RA/LA updated'
		ACCEPT	Mobile identity = P-TMSI-1
			P-IMSI-1 signature
			Pouting area identity = PAL4
٩			Routing area identity = RAI-4
3		COMPLETE	
10	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
			Paging order is for PS services.
Step	Direction UE SS	Message	Comments
-------------------	--------------------	------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
10a 10b 10c	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	
11	->	SERVICE REQUEST	service type = "paging response"
11a 11b	<- ->	RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETE	
12	<-	PAGING TYPE1	Mobile identity = IMSI Paging order is for CS services.
13 14 15	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	
16 17	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = IMSI After sending of this message, the SS waits for disconnection of the CS signalling link
18	->	RRC CONNECTION RELEASE COMPLETE	
19	SS		The following messages are sent and shall be received on cell A. The RF level of cell A is increased and the RF level of cell B is lowered until cell A is preferred by the UE.Set the cell type of cell A to the "Serving cell".
20	->	ROUTING AREA UPDATE REQUEST	Set the cell type of cell B to the "Suitable neighbour cell". (note) Update type = 'Combined RA/LA updating' P-TMSI-1 signature Routing area identity = RAI-4 TMSI ctatus = no volid TMSI ovcilable
21	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'Combined RA/LA updated' No P-TMSI P-TMSI-2 signature Mobile identity = TMSI-1 Routing area identity = RAI-1
22	->	ROUTING AREA UPDATE	
23	<-	PAGING TYPE1	Mobile identity = P-TMSI-1 Paging order is for PS services.
23a 23b 23c	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP	
24	->	SERVICE REQUEST	service type = "paging response"
24a 24b	<- ->	RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETE	
25	<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services.
26 27 28	-> <- ->	RRC CONNECTION REQUEST RRC CONNECTION SETUP RRC CONNECTION SETUP COMPLETE	
29 30	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-1 After sending of this message, the SS waits for disconnection of the CS signalling link.
31	->	RRC CONNECTION RELEASE	
32	UE		The UE is switched off or power is removed (see ICS).

Step	Dire	ction	Message	Comments	
	UE	SS			
33		->	DETACH REQUEST	Message not sent if power is removed.	
				Detach type = 'power switched off, combined	
				PS / IMSI detach'	
NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1					
"F	"Reference Radio Conditions for signalling test cases only".				

# Specific message contents

None.

### 12.4.2.1.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

### At step9, UE shall:

- acknowledge the new P-TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step11, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step16, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step20, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

### At step22, UE shall:

- acknowledge the new TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step24, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step29, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

# 12.4.2.2 Combined routing area updating / UE in CS operation at change of RA

12.4.2.2.1 Definition

# 12.4.2.2.2 Conformance requirement

PS UE in UE operation mode A that is in an ongoing CS transaction at change of routing area shall initiate the normal routing area updating procedure.

### Reference

3GPP TS 24.008 clause 4.7.5.2.

# 12.4.2.2.3 Test purpose

To test the behaviour of the UE if the routing area is changed during an ongoing circuit switched transmission.

12.4.2.2.4 Method of test

### Initial condition

### System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I.

# User Equipment:

The UE has a valid IMSI.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

A combined PS attach procedure is performed. The UE in UE operation mode A initiates a CS call. The routing area change. The UE will perform the normal routing area updating procedure durngduring the ongoing circuit-switched transaction.

Step	Direction	Message	Comments
	UE SS		
<u>1</u>			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
1 <u>a</u>	UE		The UE is set in UE operation mode A (see
2			The LIE is newered up or switched on and
2	UL		initiates an attach (see ICS)
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
Ũ	-		Mobile identity =IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
5	->	ATTACH COMPLETE	
6	UE		A CS call is initiated.
7	SS		Activate cell B with the same signal strength as
0			Cell A.
8	<-		Handover commanded by 55 on to DCH of cell
			D The following messages are sent and shall be
			received on cell B
9	->	ROUTING AREA UPDATE	Update type = 'RA updating'
÷	-	REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
			TMSI status = no valid TMSI available
10	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Mobile identity = IMSI
			Routing area identity = RAI-4
11	->		
12	-		Mohile identity - P-TMSI-1
12	<-		Paging order is for PS services
13	->	SERVICE REQUEST	service type = "paging response"
	-		
14	SS		The SS initiates the RRC connection release.
15	UE		The UE is switched off or power is removed
			(see ICS).
16	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined
			PS / IMSI detach'
NOTE:T	he definitions	s for "Suitable neighbour cell" and "S	erving cell" are specified in TS34.108 clause6.1
"F	keterence Ra	allo Conditions for signalling test cas	ses only".

Specific message contents

None.

# 12.4.2.2.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell during the CS connection, UE shall:

- initiate the normal routing area updating procedure.

# 12.4.2.3 Combined routing area updating / RA only accepted

- 12.4.2.3.1 Definition
- 12.4.2.3.2 Conformance requirement
  - 1) If the network accepts the combined PS attach procedure, but GMM cause code 'IMSI unknown in HLR' is sent to the UE the User Equipment shall delete the stored TMSI, LAI and CKSN. The User Equipment shall consider USIM invalid for non-PS services until power is switched off or USIM is removed.
  - If the network accepts the combined PS attach procedure, but GMM cause code 'MSC temporarily not reachable', 'Network failure' or 'Congestion' is sent to the UE, an UE operation mode A UE may perform an MM IMSI attach procedure.

# Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.3.3 Test purpose

### Test porpose1

To test the behaviour of the UE if the network accepts the routing area updating procedure with indication RA only, GMM cause 'IMSI unknown in HLR'.

# Test porpose2

To test the behaviour of the UE if the network accepts the routing area updating procedure with indication RA only, GMM cause 'MSC temporarily not reachable', 'Network failure' or 'Congestion'.

### 12.4.2.3.4 Method of test

Test Procedure1

### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

After attach, the UE sends an ROUTING AREA UPDATE REQUEST message. The SS allocates a P-TMSI and returns ROUTING AREA UPDATE ACCEPT message with a P-TMSI. GMM cause 'IMSI unknown in HLR' is indicated from SS. Further communication UE - SS is performed by the P-TMSI. CS services are not possible.

# Release 4

# Expected Sequence

Step	Direction	Message	Comments	
1			Set the cell type of cell A to the "Serving cell"	
<u> </u>	<u><u> </u></u>		Set the cell type of cell B to the "Off cell".	
			(note)	
1 <u>a</u>	UE		The UE is set in UE operation mode A (see	
2			ICS). The LIE is powered up or switched on and	
2	UL		initiates an attach (see ICS).	
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'	
			Mobile identity =IMSI	
			TMSI status = no valid TMSI available	
4	<-		Attach result = Combined PS / IMSI attached Mobile identity - P-TMSI-2	
			P-TMSI-2 signature	
			Routing area identity = RAI-1	
5	->	ATTACH COMPLETE		
			The following messages are sent and shall be	
6	SS		The SS deactivates cell A and activates cell	
Ŭ	00		B-Set the cell type of cell A to the "Off cell".	
			Set the cell type of cell B to the "Serving cell".	
-			(note)	
/	->		Dpdate type = 'Combined RA/LA updating'	
			Routing area identity = RAI-1	
			TMSI status = no valid TMSI available	
8	<-	ROUTING AREA UPDATE	Update result = 'RA updated'	
		ACCEPT	Mobile identity = P-TMSI-1	
			P-TMSI-T Signature Routing area identity = RAI-4	
			GMM cause = 'IMSI unknown in HLR'	
9	->	ROUTING AREA UPDATE		
10				
10	<-	PAGING TYPE1	Mobile identity = $P-IMSI-1$	
10a	->	RRC CONNECTION REQUEST	raging order is for roservices.	
10b	<-	RRC CONNECTION SETUP		
10c	->	RRC CONNECTION SETUP		
11				
11	->	SERVICE REQUEST	service type = paging response	
11a	<-	RRC CONNECTION RELEASE		
11b	->	RRC CONNECTION RELEASE		
40				
12	<-	PAGING TYPE1	Mobile Identity = IMSI Paging order is for CS services	
13	UE		The UE shall not initiate an RRC connection.	
			This is checked during 3 seconds.	
14	UE		The UE is switched off or power is removed	
15			(see ICS).	
10	->		Detach type = 'power switched off. PS detach'	
NOTE:T	he definitions	s for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radio	
С	Conditions for signalling test cases only".			

Conditions for signaling tes

# Test Procedure2

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells operating in network operation mode I. User Equipment:

The UE has a valid IMSI.

### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Automatic MM IMSI attach procedure for UE operation mode A UE Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

# Test procedure

After attach, the UE sends an ROUTING AREA UPDATE REQUEST message . The SS allocates a new P-TMSI signature and returns ROUTING AREA UPDATE ACCEPT message. GMM cause 'MSC temporarily not reachable', 'Network failure' or 'Congestion' is indicated from SS. The cause code is arbitrarily chosen. This procedure is repeated until the routing area updating attempt counter is equal to five. An UE operation mode A UE may perform an MM IMSI attach procedure (according to the ICS statement). Further communication UE - SS is performed by the P-TMSI. The existence of a signalling channel is verified by a request for mobile identity. It is further verified that the UE after a successful IMSI attach procedure can perform CS services.

# **Expected Sequence**

Dependent whether the option 'Automatic MM IMSI attach procedure for UE operation mode A UE' is not supported or not, the steps 1-13 or 14-35 apply depending on manufacturer (see ICS).

Step	Direction	Message	Comments
	UE SS		
1	<u>SS</u>		The following messages are sent and shall be received on cell A Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell".
1 <u>a</u>	UE		(note) The UE is set in UE operation mode A and no automatic MM IMSI attach procedure is
2	UE		The UE is powered up or switched on and initiates an attach (see ICS).
3 4	~ ~	ATTACH REQUEST ATTACH ACCEPT	Attach type = 'Combined PS / IMSI attach' <u>or</u> <u>'PS attach while IMSI attached'</u> Mobile identity =IMSI TMSI status = no valid TMSI available Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
5	->	ATTACH COMPLETE	
6	SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
7	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available
8	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)

9	->	ROUTING AREA UPDATE COMPLETE	
10			The routing area updating attempt counter =1. The combined routing area updating procedure is reinitialised at the expiry of T3311
11	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4
12	<-	ROUTING AREA UPDATE ACCEPT	IMSI status = no valid IMSI available Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
13	->	ROUTING AREA UPDATE	
14			The routing area updating attempt counter =2. The combined routing area updating procedure is reinitialised at the expiry of T3311
15	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4 TMSI status = no valid TMSI available
16	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
17	->	ROUTING AREA UPDATE	
18			The routing area updating attempt counter =3. The combined routing area updating procedure
19	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4
20	<-	ROUTING AREA UPDATE ACCEPT	TMSI status = no valid TMSI available Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)
21	->		
22			The routing area updating attempt counter =4. The combined routing area updating procedure
23	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-4
24	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-4 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily chosen)

25	->	ROUTING AREA UPDATE	
26		COMPLETE	The routing area updating attempt counter =5.
			is reinitialised at the expiry of T3311
27	UE		The UE is switched off or power is removed (see ICS)
28	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'
			Stop the sequence.
			The following messages are sent and shall be received on cell B
29	UE		The UE is set in UE operation mode A and automatic MM IMSI attach procedure is indicated (care IOO)
30	UE		The UE is powered up or switched on and
31	->	ATTACH REQUEST	initiates an attach (see ICS). Attach type = 'Combined PS / IMSI attach' <u>or</u>
			Mobile identity = IMSI
22			TMSI status = no valid TMSI available
32	<-		Mobile identity = $P-TMSI-2$
			P-TMSI-2 signature
			Routing area identity = RAI-4
33	->	ATTACH COMPLETE	The following messages are cont and shall be
			received on cell A.
34	SS		The SS deactivates cell B and activates cell A.
			Set the cell type of cell B to the "Off cell".
35	->	ROUTING AREA UPDATE	(note) Update type = 'Combined RA/LA updating'
00		REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-4
36	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-1 P-TMSI-1 signature
			Routing area identity = RAI-1
			GMM cause = 'MSC temporarily not reachable',
			chosen)
37	->	ROUTING AREA UPDATE	
38			The routing area updating attempt counter =1.
			The combined routing area updating procedure is reinitialised at the expiry of T3311
39	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating•
		REQUEST	with IMSI attach' P-TMSI-1 signature
			Routing area identity = RAI-1
40	<i>c</i> -	ROUTING AREA LIPDATE	TMSI status = no valid TMSI available
10		ACCEPT	Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature Routing area identity = RAI-1
			GMM cause = 'MSC temporarily not reachable',
			'Network failure' or 'Congestion' (arbitrarily chosen)
41	->	ROUTING AREA UPDATE	
42			The routing area updating attempt counter =2.
			The combined routing area updating procedure is reinitialised at the expiry of T3311

43	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature
44	<-	ROUTING AREA UPDATE ACCEPT	Routing area identity = RAI-1 TMSI status = no valid TMSI available Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily
45	->	ROUTING AREA UPDATE	chosen)
46		COMPLETE	The routing area updating attempt counter =3. The combined routing area updating procedure
47	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating• with IMSI attach' P-TMSI-1 signature
48	<-	ROUTING AREA UPDATE ACCEPT	TMSI status = no valid TMSI available Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', (Notwork failure' or 'Congestion' (arbitrarily
40			chosen)
49	->	COMPLETE	<b>T</b>
50			The combined routing area updating attempt counter =4. The combined routing area updating procedure is reinitialised at the expiry of T3311
51	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating•with IMSI attach' P-TMSI-1 signature Routing area identity = RAI-1
52	<-	ROUTING AREA UPDATE ACCEPT	Misi status = no valid TMSI available Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-1 GMM cause = 'MSC temporarily not reachable', 'Network failure' or 'Congestion' (arbitrarily
53	->	ROUTING AREA UPDATE COMPLETE	chosen)
54 55	UE	Registration on CS	The routing area updating attempt counter =5. See TS 34.108 This is applied only for UE in UE operation mode A. Parameter mobile identity is TMSL1
56	<-	PAGING TYPE1	Mobile identity = TMSI-1 Paging order is for CS services
57 58	->		
59	->	RRC CONNECTION SETUP	
60 61	-> <-	PAGING RESPONSE RRC CONNECTION RELEASE	Mobile identity = TMSI-1 After sending of this message, the SS waits for disconnection of the CS signalling link
62	->	RRC CONNECTION RELEASE	
63	UE		The UE is switched off or power is removed
64	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS Detach'

### NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

### Specific message contents

None.

### 12.4.2.3.5 Test requirements

### Test requirements for Test Procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure.

At step9, UE shall:

- acknowledge the new P-TMSI by sending the ROUTING AREA UPDATE COMPLETE message.

At step11, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step13, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

Test requirements for Test Procedure2

At step3 and 31, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step6 and 35, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure.

### At step11, 15, 19 and 23, UE shall:

- re-initiate the combined routing area updating procedure.

At step39, 43, 47 and 51, UE shall:

- re-initiate the combined routing area updating procedure.

### At step55, UE shall:

- perform MM location updating procedure.

At step60, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

# 12.4.2.4 Combined routing area updating / rejected / PLMN not allowed

12.4.2.4.1 Definition

12.4.2.4.2 Conformance requirement

- 1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'PLMN not allowed' the User Equipment shall:
  - 1.1 not perform combined GPRA attach when switched on in the same location area or PLMN.
  - 1.2 delete the stored RAI, PS-CKSN, P-TMSI, P-TMSI signature, TMSI CKSN and LAI.
  - 1.3 store the PLMN in the 'forbidden PLMN list'.

2) An MS that receives a ROUTING AREA UPDATE REJECT message stops timer T3330, enters state MM IDLE and for all causes except #12, #14 and #15 deletes the list of "equivalent PLMNs".

### Reference

3GPP TS 24.008 clause 4.7.5.2.

### 12.4.2.4.3 Test purpose

To test the behaviour of the UE if the network rejects the combined routing area updating procedure of the UE with the cause 'PLMN not allowed'.

# 12.4.2.4.4 Method of test

Initial condition

System Simulator:

Four-Five cells (not simultaneously activated), cell A in MCC1/MNC2/LAC1/RAC1 (RAI-8), cell B in MCC1/MNC2/LAC1/RAC2 (RAI-10), cell C in MCC1/MNC2/LAC2/RAC1 (RAI-9) and cell D in MCC2/MNC1/LAC1/RAC1 (RAI-2)., cell E in MCC1/MNC3/LAC1/RAC1 (RAI-11).

The PLMN containing Cells A, B and C is equivalent to the PLMN that contains Cell E. All four five cells are operating in network operation mode I

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The SS rejects a combined routing area updating with the cause value 'PLMN not allowed'. The SS checks that the UE does not perform PS attach if activated in the same PLMN. The SS checks that the UE does not perform IMSI attach if activated in the same PLMN.

Step	Direction	Message	Comments
	UE SS		
	SS		The following messages are sent and shall be
			received on cell A.
1	SS		The SS activates cell A. Set the cell type of cell
			A to the "Serving cell".
			Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Off cell".
			Set the cell type of cell D to the "Off cell".
			Set the cell type of cell E to the "Off cell".
			(note)
2	UE		The UE is powered up or switched on and
-	01		initiates an attach (see ICS
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
0	-	ATTACH REQUEUT	Mobile identity –IMSI
			TMSI status – no valid TMSI available
1	-		Attach result - 'Combined PS / IMSI attached'
4	1	ATTACITACCELLI	Mobile identity $= P TMSI 2$
			P TMSL 2 signature
			P-1W3I-2 Signature
			Routing area identity = RAI-8
			Mobile identity = TMSI-1
_			Equivalent PLMN: MCC = 1, MNC=3
5	->	ATTACH COMPLETE	
			The following messages are sent and shall be
			received on cell B <u>and cell E</u> .
7	SS		The SS deactivates cell A and activates cell
			B.Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
			Set the cell type of cell E to the "Suitable
			neighbour cell".
			(note)
8	UE		Cell B is preferred by the UE.
9	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'
0	-	REQUEST	P-TMSI-2 signature
		REGOLOT	Routing area identity – RAI-8
			TMSL status – valid TMSL available
10		ROUTING AREA LIPDATE	GMM cause = 'PLMN not allowed'
10		RECT	
11		ICE3EOT	The LIE initiates an attach by MMI or AT
	02		command
10			No ATTACH RECHEST cont to SS
12	UE		NO ATTACH REQUEST Selic to 55
10-	00		(55 waits 50 seconds).
<u>12a</u>	<u>55</u>		The SS deactivates cell E.
40			Set the cell type of cell E to the Officell .
13	<-	PAGING TYPE1	Mobile Identity = $P - IMSI - 2$
			Paging order is for PS services.
14	UE		No response from the UE to the request. This
			is checked for 10 seconds.
			The following messages are sent and shall be
			received on cell C.
15	SS		The SS deactivates cell B and activates cell
			<del>C.</del> Set the cell type of cell B to the "Off cell".
			Set the cell type of cell C to the "Serving cell".
			(note)
16	UE		Cell C is preferred by the LIF
17			The LIF initiates an attach by MMI or by AT
17			command
10			
IQ	UE		INU ATTAUT REQUEST SENT TO SS
40			(SS Walts 30 Seconds).
19	<-	PAGING TYPE1	
			Paging order is for CS services.
20	UE		The UE shall not initiate an RRC connection.
			This is checked during 3 seconds.
			The following messages are sent and shall be
			received on cell A.
	•	•	•

Step	Direction	Message	Comments
	UE SS		
21	SS		The SS deactivates cell C and activates cell
			A.Set the cell type of cell A to the "Serving
			<u>cell".</u>
			Set the cell type of cell C to the "Off cell".
			(note)
22	UE		Cell A is preferred by the UE.
23	UE		The UE initiates an attach by MMI or by AT
			command.
24	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
25	<-	PAGING TYPE1	Mobile identity = P-TMSI-2
			Paging order is for PS services.
26	UE		No response from the UE to the request. This
			is checked for 10 seconds.
			The following messages are sent and shall be
07	00		received on cell D.
27	55		The SS deactivates cell A and activates cell
			D.Set the cell type of cell A to the Off cell.
			Set the cell type of cell D to the Serving cell .
20			(note) Coll D is proferred by the LIE
20		Pagistration on CS	
200	UE	Registration on CS	This step is applied only for non-auto attach
			Location Undate Procedure initiated from the
29	UE		The UE initiates an attach automatically (see
			PICSICS), by MMI or by AT command.
30	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity =IMSI
			TMSI status = no valid TMSI available
31	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-2
			Mobile identity = IMSI
32	->	ATTACH COMPLETE	
33	UE		The UE is switched off or power is removed
			(see ICS).
34	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined
			PS / IMSI detach'
NOTE: T	he definitions	s tor "Ott cell", "Serving cell" and "Su	itable neighbour cell" are specified in TS34.108
C	auseb.1 "Ref	rerence Radio Conditions for signalli	ng test cases only"

Specific message contents

None.

1

# 12.4.2.4.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- _____-initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step 10, the UE shall delete the equivalent PLMN list (MCC=1, MNC=3).

At step 12, the UE shall not initiate a PS attach procedure to cell E.

At step<del>12,</del>18 and 24, UE shall:

- not initiate a PS attach procedure.

At step14, 20 and 26, when the UE receives the paging message for PS domain, UE shall:

- not respond to the paging message for PS domain.

At step20, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

At step30, UE shall:

- perform the PS attach procedure.

# 12.4.2.5a Combined routing area updating / rejected / roaming not allowed in this location area

12.4.2.5a.1 Definition

### 12.4.2.5a.2 Conformance requirement

- 1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'roaming not allowed in this location area' the User Equipment:
  - 1.1 shall not perform combined PS attach when in the same location area.
  - 1.2 shall delete the stored RAI, PS-CKSN, P-TMSI P-TMSI signature, TMSI, CKSN and LAI.
  - 1.3 shall store the LA in the 'forbidden location areas for roaming'.
  - 1.4 may perform combined PS attach when a new location area is entered.
- 2) The User Equipment shall reset the list of 'Forbidden location areas for roaming' when switched off or when the USIM is removed.

### Reference

3GPP TS 24.008 clause 4.7.5.2.

# 12.4.2.5a.3 Test purpose

### Test purpose1

To test that on receipt of a rejection using the 'Roaming not allowed in this area' cause code, the UE ceases trying a routing area updating procedure on that location area. Successful combined routing area updating procedure is possible in other location areas.

### Test purpose2

To test that if the UE is switched off or the USIM is removed the list of 'forbidden location areas for roaming' is cleared.

- 12.4.2.5a.4 Method of test
- 12.4.2.5a.4.1 Test procedure1

# Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell B in MCC2/MNC1/LAC2/RAC1 (RAI-6). Both cells are operating in network operation mode I. User Equipment:

The UE has a valid IMSI.

### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS rejects a combined routing area updating with the cause value 'Roaming not allowed in this area'. A new attempt for a combined PS attach is not possible. Successful combined PS attach procedure is performed in another location area. The UE is moved back to the 1st location area. A combined routing area updating shall not be performed, as the LA is on the forbidden list.

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall be
	00		received on cell A.
1	55		A to the "Serving cell"
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
2	UE		The UE is powered up or switched on and initiates an attach (see ICS
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity =IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = "Combined PS / IMSI attached" Mobile identity - P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-2
-			Mobile identity = TMSI-1
5	->		The following messages are sent and shall be
			received on cell B.
7	SS		The SS deactivates cell A and activates cell B.
			Set the cell type of cell A to the "Suitable
			<u>neignbour cell .</u> Set the cell type of cell B to the "Serving cell"
			(note)
8	UE		Cell B is preferred by the UE.
9	->		Update type = 'Combined RA/LA updating'
		REQUEST	Routing area identity = $RAI-2$
10	<-	ROUTING AREA UPDATE	GMM cause = 'Roaming not allowed in this
		REJECT	area'
11	UE		command
12	UE		No ATTACH REQUEST sent to SS
			(SS waits 30 seconds).
13	<-	PAGING TYPE1	Mobile identity = P-IMSI-2 Paging order is for PS services
14	UE		No response from the UE to the request. This
			is checked for 10 seconds.
15	<-	PAGING TYPE1	Mobile identity = TMSI-1
16	UF		The UE shall not initiate an RRC connection
10	01		This is checked during 3 seconds.
			The following messages are sent and shall be
17	66		received on cell A.
17	55		A-Set the cell type of cell A to the "Serving
			cell".
			Set the cell type of cell B to the "Suitable
			neignbour cell".
18	UE		Cell A is preferred by the UE.
18a	UE	Registration on CS	See TS 34.108
			This step is applied only for non-auto attach
			UE.
			UE.
19	UE		The UE initiates an attach automatically (see
20	->		ICS), by MMI or by AT command.
20	->		Mobile identity =IMSI
			TMSI status = no valid TMSI available

Step	Direction	Message	Comments
	UE SS		
21	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI- $26$
00			Mobile identity = TMSI-1
22	->		Mobile identity TMCL1
23	<-	PAGING TYPET	$\frac{1}{1000} = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 10000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 1000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 10000 = 100000 = 100000 = 1000000 = 1000000 = 100000000$
24	->		raging order is for CS services.
24		RRC CONNECTION SETUP	
26	->	RRC CONNECTION SETUP	
20	-	COMPLETE	
27	->	PAGING RESPONSE	Mobile identity = TMSI-1
28	<-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for
			disconnection of the CS signalling link.
29	->	RRC CONNECTION RELEASE	
		COMPLETE	
30	<-	PAGING TYPE1	Mobile identity = P-TMSI-1
			Paging order is for PS services.
30a	->	RRC CONNECTION REQUEST	
300	<-	RRC CONNECTION SETUP	
300	->		
21			convice type - "paging response"
51	->		service type – paging response
31a	<-	RRC CONNECTION RELEASE	
31b	->	RRC CONNECTION RELEASE	
		COMPLETE	
			The following messages are sent and shall be
			received on cell B.
32	SS		The SS deactivates cell A and activates cell
			B.Set the cell type of cell A to the "Suitable
			neighbour cell".
			Set the cell type of cell B to the "Serving cell".
22			
33	UE		to SS
			(0.55 (SS waits 20 seconds)
34		PAGING TYPE1	Mobile identity = $P-TMSI-2$
5-	~		Paging order is for PS services.
35	UE		No response from the UE to the request. This
			is checked for 10 seconds.
NOTE:T	he definitions	for "Suitable neighbour cell" and "S	erving cell" are specified in TS34.108 clause6.1
"F	Reference Ra	dio Conditions for signalling test cas	ses only"

12.4.2.5a.4.2 Test procedure2

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell B in MCC2/MNC1/LAC2/RAC1 (RAI-6). Both cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI. UE is Idle Updated on cell A.

# Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No USIM removal possible without powering down Yes/No Switch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS rejects a combined routing area updating with the cause value 'Roaming not allowed in this area'. The UE is switched off for 10 seconds and switched on again. The SS checks that a combined PS attach is possible on the cell on which the previous combined routing area updating had been rejected.

# If USIM removal is possible without switching off:

The SS rejects a routing area updating with the cause value 'Roaming not allowed in this area'. The USIM is removed and inserted in the UE. The SS checks that a PS attach procedure and routing area updating procedure is possible on the cell on which the routing area updating had previously been rejected.

# Expected Sequence

ſ	Step	Direction	Message	Comments
ŀ		SS SS		The following messages are sent and shall be
				received on cell A.
	1	SS		The SS activates cell A. Set the cell type of cell
				A to the "Serving cell".
				neighbour cell".
				(note)
	2	UE		The UE is powered up or switched on and
	3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
	-			Mobile identity =IMSI
				TMSI status = no valid TMSI available
	4	<-		Attach result = Combined PS / IMSI attached Mobile identity = P-TMSI-2
				P-TMSI-2 signature
				Routing area identity = RAI-2
	5	->		Mobile identity = TMSI-1
F	5	->		The following messages are sent and shall be
				received on cell B.
	7	SS		The SS deactivates cell A and activates cell B.
				Set the cell type of cell A to the Suitable
				Set the cell type of cell B to the "Serving cell".
				(note)
	8	UE		Cell B is preferred by the UE.
	3	-7	REQUEST	P-TMSI-2 signature
				Routing area identity = RAI-2
	10	<-		GMM cause = 'Roaming not allowed in this
	11	UE	REJECT	The UE initiates an attach by MMI or by AT
	4.0			command.
	12	UE		NO ATTACH REQUEST sent to SS
	13	<-	PAGING TYPE1	Mobile identity = P-TMSI-2
				Paging order is for PS services.
	14	UE		No response from the UE to the request. This is checked for 10 seconds
	15	<-	PAGING TYPE1	Mobile identity = TMSI-1
				Paging order is for CS services.
	16	UE		The UE shall not initiate an RRC connection.
	17	UE		If possible (see ICS) USIM removal is
				performed. Otherwise if possible (see ICS)
				switch off is performed. Otherwise the power is
	18	UE		The UE gets the USIM replaced, is powered up
	-	-		or switched on.
	18a	UE	Registration on CS	See TS 34.108
				This step is applied only for non-auto attach
				Location Update Procedure initiated from the
	40			
	19	UE		I NE UE INITIATES AN ATTACH AUTOMATICALLY (See
	20	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
				Mobile identity =IMSI
	21	_		IMSI status = no valid TMSI available
	21	<-		Mobile identity = P-TMSI-1
				P-TMSI-1 signature
				Routing area identity = RAI-6
				IVIODILE IDENTITY = TMSI-1

I F			meeesge	Comments	
	UE	SS			
22	-:	>	ATTACH COMPLETE		
23	<	:-	PAGING TYPE1	Mobile identity = TMSI-1	
				Paging order is for CS services.	
24	-:	>	RRC CONNECTION REQUEST		
25	<	-	RRC CONNECTION SETUP		
26	->	•	RRC CONNECTION SETUP		
			COMPLETE		
27	-:	>	PAGING RESPONSE	Mobile identity = IMSI-1	
28	<	-	RRC CONNECTION RELEASE	After sending of this message, the SS waits for	
00				disconnection of the CS signalling link.	
29	->	•			
20				Mahila idantity DIMOL 1	
30	<	-	PAGING TIPET	MODIFe   definity = P - I MSI - I	
30a	- >		RRC CONNECTION REQUEST		
30b	<.	-	RRC CONNECTION SETUP		
30c	->		RRC CONNECTION SETUP		
			COMPLETE		
31	-:	>	SERVICE REQUEST	service type = "paging response"	
31a	<-	-	RRC CONNECTION RELEASE		
31b	->	•	RRC CONNECTION RELEASE		
			COMPLETE		
32	UE	Ξ		The UE is switched off or power is removed	
				(see ICS).	
33	-:	>	DETACH REQUEST	Message not sent if power is removed.	
				Detach type = 'power switched off, combined	
				PS/INSI detach	
NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1					

### Specific message contents

None.

# 12.4.2.5a.5 Test requirements

Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence

At step12, when the SS rejects the combined routing area update procedure with GMM cause = 'Roaming not allowed in this area', UE shall:

- not initiate a PS attach procedure.

At step14, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

At step16, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

### At step20, UE shall:

- initiate the combined PS attach procedure.

At step27, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step31, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

At step35, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

### Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

#### At step9, UE shall:

- initiate the combined routing area update procedure(Update type = 'Combined RA/LA updating') with the information elements specified above Expected Sequence.

At step14, when the UE receives the paging message for PS domain, UE shall;

- not respond to the paging message for PS domain.

At step16, when the UE receives the paging message for CS domain, UE shall:

- not respond to the paging message for CS domain.

### At step20, UE shall:

- initiate the combined PS attach procedure.

At step27, when the UE receives the paging message for CS domain, UE shall;

- respond to the paging message for CS domain by sending the PAGING RESPONSE message.

At step31, when the UE receives the paging message for PS domain, UE shall:

- respond to the paging message for PS domain by sending the SERVICE REQUEST message.

# 12.4.2.5b Combined routing area updating / rejected / No Suitable Cells In Location Area.

12.4.2.5b.1 Definition

# 12.4.2.5b.2 Conformance requirement

- 1) If the network rejects a combined routing area updating procedure from the User Equipment with the cause 'No Suitable Cells In Location Area', the User Equipment shall:
  - 1.1 delete the stored RAI, PS-CKSN, P-TMSI and P-TMSI signature.
  - 1.2 store the LA or the PLMN identity in the 'forbidden location areas for roaming'.
  - 1.3 search for a suitable cell in a different location area on the same PLMN.
- 2) An MS that receives a ROUTING AREA UPDATE REJECT message stops timer T3330, enters state MM IDLE and for all causes except #12, #14 and #15 deletes the list of "equivalent PLMNs".

Reference

3GPP TS 24.008 clauses 4.7.5.2.4

### 12.4.2.5b.3 Test purpose

To test the behaviour of the UE if the network rejects a combined routing area updating procedure of the UE with the cause 'No Suitable Cells In Location Area'.

To test that the UE deletes the list of forbidden LAs when power is switched off'.

12.4.2.5b.4 Method of test

Initial condition

System Simulator:

Four-Five cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2), cell D in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell E in MCC1/MNC2/LAC1/RAC1 (RAI-5)

All three five cells are operating in network operation mode II.

The PLMN contains Cell A, B and D is equivalent to the PLMN that contains Cell E.

User Equipment:

The UE has valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUSIM removal possible without powering down Yes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The SS rejects a combined routing area updating with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

Step	Direction	Message	Comments
L	UESS		
	SS		The following message are sent and shall be
			received on cell D.
1	SS		The SS activates cell D.Set the cell type of cell
			A to the "Suitable neighbour cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			Set the cell type of cell D to the "Serving cell".
			Set the cell type of cell E to the "Off cell".
			(note)
2	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell D is preferred
			by the UE.
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity = IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-4
			Mobile identity = IMSI
			Equivalent PLMN: MCC = 1, MNC=2
5	->	ATTACH COMPLETE	
6	SS		The SS deactivates Cell D and activates Cell A,
			Cell B and Cell C.
			Set the cell type of cell A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			Set the cell type of cell D to the "Off cell".
			(note)
			The SS configures power level of each Cell as
			follows.
			Cell A > Cell B = Cell C
_			Cell A is preferred by the UE.
1	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'
		REQUEST	P-IMSI-1 signature
•			Routing area identity = RAI-4
8	<-		Givini cause = 'No Suitable Cells In Location
		REJECT	
			The following message are sent and shall be
~			received on cell B.
Э	->	ATTACH REQUEST	Attach type = Combined PS / IMSI attached'
10			Mobile Identity = IMSI
10	<-		Attach result = "Combined PS / IMSI attached"
			Nobile identity = $P - 1 MSI - 2$
			P-INSI-2 signature
			Routing area identity = RAI-3
14			Equivalent PLIVIN: MCC = 1, MNC=2
11	->		
<u>12</u>	<u>88</u>		Set the cell type of cell D to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			<u>neighbour ceil .</u>
			Set the cell type of cell E to the "Suitable
			neighbour ceil".
			( <u>IIUTE)</u> The SS departituates Call D and a divertes Call D
			The SS deactivates Cell B and activates Cell D
			Ine SS configures power level of each Cell as
40			
<u>13</u>	l	1	Cell D is preferred by the UE.

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<u>14</u>	<u>-&gt;</u>	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-1 signature		
			Routing area identity = RAI-4		
<u>15</u>	<u>&lt;-</u>	ROUTING AREA UPDATE	<u>GMM cause = 'No Suitable Cells In Location</u>		
		<u>REJECT</u>	<u>Area'</u>		
<u>16</u>			The following message are sent and shall be		
			received on cell E.		
17	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attached'		
	_		Mobile identity = IMSI		
<u>18</u>	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'		
			Mobile identity = P-TMSI-3		
			P-TMSI-3 signature		
			Routing area identity = RAI-5		
			Equivalent PLMN: MCC=1. MNC=1		
<del>12</del> 19	->	DETACH REQUEST	Message not sent if power is removed.		
			Detach type = 'power switched off, PS detach'		
NOTE: Th	NOTE: The definitions for "Suitable neighbour cell", "Serving cell" and "Off cell" are specified in TS34.108				
cla	clause6.1 "Reference Radio Conditions for signalling test cases only".				

# Specific message contents

None.

# 12.4.2.5b.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the Combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step7, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

At step 8, the UE shall maintain the equivalent PLMN list (MCC=1, MNC=2).

At step9, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

-_____perform the PS attach procedure.

At step 15, the UE shall maintain the equivalent PLMN list (MCC=1, MNC=2).

At step 17, when the UE enters a suitable cell in a different but equivalent PLMN (MCC=1, MNC=2), UE shall:

- perform the PS attach procedure.

12.4.2.6 Combined routing area updating / abnormal cases / access barred due to access class control

- 12.4.2.6.1 Definition
- 12.4.2.6.2 Conformance requirement
  - 1) The UE shall not perform combined routing area updating procedure, but stays in the current serving cell and applies normal cell reselection process.
  - 2) The User Equipment shall perform the combined routing area updating procedure when:
    - 2.1 Access is granted.
    - 2.2 Cell is changed.

# Reference

3GPP TS 24.008 clause 4.7.5.2.

### 12.4.2.6.3 Test purpose

### Test purpose1

To test the behaviour of the UE in case of access class control (access is granted).

### Test purpose2

To test the behaviour of the UE in case of access class control (cell is changed).

# 12.4.2.6.4.1 Test procedure1

### Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is initially indicated to be barred on Cell B.

### System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has Access Class x not barred, cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) has Access Class x barred. Both cells are operating in network operation mode I.

### User Equipment:

The UE has valid IMSI. UE is Idle Updated on cell A.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

A PS attach procedure is performed. The routing area is changed. The SS indicates access class x barred. A routing area updating procedure is not performed.

The SS indicates that access class x is not barred. A routing area updating procedure is performed.

Step	Direction	Message	Comments
			The following messages are sent and shall be
	55		received on cell A
1	SS		The SS activates cell A. Set the cell type of cell
	00		A to the "Serving cell"
			Set the cell type of cell B to the "Off cell".
			(note)
2	UE		The UE is powered up or switched on and
			initiates an attach (see ICS).
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
			Mobile identity =IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
~			Mobile identity = IMSI
Э	->		The following meanages are part and shall be
			received on cell B
6	22		The SS deactivates cell A and activates cell
0	00		B Set the cell type of cell A to the "Off cell"
			Set the cell type of cell B to the "Serving cell".
			(note)
7	UE		Cell B is preferred by the UE.
8	UE		No ROUTING AREA UPDATE REQUEST sent
			to SS, as access class x is barred
			(SS waits 30 seconds).
9	SS		The access class x is not barred anymore.
10	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'
		REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
			IMSI status = no valid IMSI available
11	<-		Update result = 'Combined RA/LA updated'
		ACCEPT	$P_{\text{III}} = P_{\text{IIII}} = P_{\text{IIIII}} = P_{\text{IIIII}} = P_{\text{IIIII}} = P_{\text{IIIII}} = P_{\text{IIIIII}} = P_{\text{IIIIII}} = P_{\text{IIIIIII}} = P_{\text{IIIIIIIIIIIII}} = P_{IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII$
			P-TMOI-T Signature Mobile identity - TMSL1
			Pouting area identity = PAL4
12	->	ROUTING AREA LIPDATE	
12		COMPLETE	
13	UE		The UE is switched off or power is removed
			(see ICS).
14	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined
			PS/IMSI detach'

Specific message contents

None.

12.4.2.6.4.2 Test procedure2

# Initial condition

An access class x (0-15) is arbitrarily chosen. The USIM is programmed with this access class x. Communication with User Equipments using access class x is indicated to be barred on cell B.

System Simulator:

Three cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1) has access class x not barred, cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4) has access class x barred, cell C in

MCC1/MNC1/LAC1/RAC2 (RAI-4) has access class x not barred. All three cells are operating in network operation mode I.

# User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

Test procedure

A PS attach procedure is performed. The routing area is changed. The SS indicates access class x barred. A routing area updating procedure is not performed.

A cell change is performed into a cell where access class x is not barred. A routing area updating procedure is performed.

Step	Direction	Message	Comments	
1	SS SS		The following messages are sent and shall be received on cell A. The SS activates cell A. Set the cell type of cell A to the "Serving cell".	
2	UE		Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Off cell". (note) The UE is powered up or switched on and	
3	->	ATTACH REQUEST	initiates an attach (see ICS). Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI	
4	<-	ATTACH ACCEPT	TMSI status = no valid TMSI available Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature	
5	->	ATTACH COMPLETE	Routing area identity = RAI-1 Mobile identity = IMSI	
6	SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B-Set the cell type of cell A to the "Off cell".	
7 8	UE UE		<u>(note)</u> Cell B is preferred by the UE. No ROUTING AREA UPDATE REQUEST sent to SS, as access class x is barred (SS waits 30 seconds).	
9	SS		The following messages are sent and shall be received on cell C. The SS deactivates cell B and activates cell G-Set the cell type of cell B to the "Off cell". Set the cell type of cell C to the "Serving cell".	
10 11	UE ->	ROUTING AREA UPDATE REQUEST	(note) Cell C is preferred by the UE. Update type = 'Combined RA/LA updating' P-TMSI-2 signature	
12	<-	ROUTING AREA UPDATE ACCEPT	Routing area identity = RAI-1 TMSI status = no valid TMSI available Update result = 'Combined RA/LA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Mobile identity = TMSI-1	
13	->		Routing area identity = RAI-4	
14	UE	COMPLETE	The UE is switched off or power is removed	
15	->	DETACH REQUEST	(see ICS). Message not sent if power is removed. Detach type = 'power switched off, combined PS/IMSI detach'	
NOTE:TI	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only"			

Specific message contents

None.

# 12.4.2.6.5 Test requirements

### Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the access class x is barred, UE shall:

- not perform the combined routing area updating procedure.

At step10, when the access class x is not barred, UE shall:

- perform the combined routing area updating procedure.

#### Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the access class x is barred UE shall:

- not perform the combined routing area updating procedure.

At step11, when the serving cell is changed, UE shall:

- perform the combined routing area updating procedure.
- 12.4.2.7 Combined routing area updating / abnormal cases / attempt counter check / procedure timeout
- 12.4.2.7.1 Definition

### 12.4.2.7.2 Conformance requirement

- 1) When a T3330 timeout has occurred during a routing area updating procedure, the UE shall repeat the routing area updating procedure after T3330 timeout until the procedure is repeated five times.
- 2) When a routing area updating procedure is repeated five times, the routing area updating attempt counter is incremented and five more routing area updating procedures are performed. This procedure is repeated until the routing area updating attempt counter is five, the UE_shall then start timer T3302.
- 3) When the T3302 expire, a new routing area updating procedure shall be initiated.

#### Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.7.3 Test purpose

To test the behaviour of the UE with respect to the attempt counter.

# 12.4.2.7.4 Method of test

### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I. User Equipment:

The UE has a valid IMSI. UE is Idle Updated on cell A.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

### Test procedure

The UE initiates a routing area updating procedure (routing area updating attempt counter zero). The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter one) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter two) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter three) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and T3311 is started.

The UE initiates a new routing area updating procedure (routing area updating attempt counter four) after T3311 expires. The SS does not answer with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. The UE restarts the routing area updating procedure four times. The SS never answers with ROUTING AREA UPDATE ACCEPT message before T3330 timeout. After five consecutive routing area update procedures, the routing area updating attempt counter is incremented and as the routing area updating attempt counter is five. T3302 is started.

### The UE performs a Location Update procedure.

The UE initiates a routing area updating procedure with routing area updating attempt counter zero after T3302 expires with the stored P-TMSI, P-TMSI signature, PS CKSN and RAI.

T3302; set to 12 minutes.

T3311; 15 seconds.

T3330; 15 seconds.

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall be received on cell A.
1	SS		The SS activates cell A. Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell".
2	UE		The UE is powered up or switched on and
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach' Mobile identity =IMSI
4	<-	ATTACH ACCEPT	TMSI status = no valid TMSI available Attach result = 'Combined PS / IMSI attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1 Mobile identity = IMSI
5	->	ATTACH COMPLETE	
6	SS		The following messages are sent and shall be received on cell B. The SS deactivates cell A and activates cell B. Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
7	UE		$\frac{(\text{note})}{\text{Cell B is preferred by the UE.}}$
8	->	ROUTING AREA UPDATE REQUEST	Update type = 'Combined RA/LA updating' P-TMSI-2 signature
9 10	SS SS		TMSI status = no valid TMSI available Routing area updating attempt counter = k (k is not visible. It is only used for clarifying the sequence.) Retransmission counter = 0 No response is given from the SS. The SS verifies that the time between the RA
11	->	ROUTING AREA UPDATE REQUEST	Update requests is 13330seconds Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Potragemission counter = 1
12 13	SS SS		No response is given from the SS. The SS verifies that the time between the RA
14	->	ROUTING AREA UPDATE REQUEST	Update requests is 13330seconds Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Retransmission counter = 2
15 16	SS SS		No response is given from the SS. The SS verifies that the time between the RA
17	->	ROUTING AREA UPDATE REQUEST	update requests is 13330seconds Update type = 'Combined RA/LA updating' P-TMSI-2 signature Routing area identity = RAI-1 TMSI status = no valid TMSI available Routing area updating attempt counter = k Patragemission counter = 2
18 19	SS SS		No response is given from the SS. The SS verifies that the time between the RA update requests is T3330seconds

Step	Direction	Message	Comments			
	UE SS					
20	->	ROUTING AREA UPDATING	Update type = 'Combined RA/LA updating'			
		REQUEST	P-TMSI-2 signature			
			Routing area identity = RAI-1			
			TMSI status = no valid TMSI available			
			Routing area updating attempt counter = k			
			Retransmission counter = 4			
21	SS		No response is given from the SS.			
22	SS		The SS verifies that the time between the RA			
			update requests is T3311 + T3330 seconds.			
23	SS		Step $8 - 22$ is repeated four times with $k = 2, k$			
			= 3, k = 4 and k = 5			
<u>23a</u>	<u>UE</u>	Registration on CS	The UE performs a normal location updating			
			procedure.			
			<u>See TS 34.108</u>			
24	SS		The SS verifies that the time between the RA			
			update requests is T3302 + T3330 seconds			
25	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'			
		REQUEST	P-TMSI-2 signature			
			Routing area identity = RAI-1			
			TMSI status = no valid TMSI available			
26	<-	ROUTING AREA UPDATE	Update result = 'Combined RA/LA updated'			
		ACCEPT	Mobile identity = P-TMSI-1			
			P-TMSI-1 signature			
			Mobile identity = IMSI			
			Routing area identity = RAI-4			
27	->	ROUTING AREA UPDATE				
		COMPLETE				
28	UE		The UE is switched off or power is removed			
			(see ICS).			
29	->	DETACH REQUEST	Message not sent if power is removed.			
			Detach type = 'power switched off, combined			
			PS/IMSI detach'			
NOTE:T	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio					

Conditions for signalling test cases only".

# Specific message contents

None.

# 12.4.2.7.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the combined routing area updating procedure with information elements specified in the above Expected Sequence.

UE shall perform the following actions depending on the conditions described below.

Case 1) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter less than five and the Retransmission counter less than five

At step11, 14, 17 and 20, UE shall:

- repeat the combined routing area updating procedure after the timer T3330 timeout

Case2) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter less than five and the RetansmissionRetransmission counter five

At step 22, UE shall:

- not repeat the combined routing area updating procedure.

Case 3) A timer T3311 timeout has occurred and the Routing area attempt counter is less than five,

At step23, UE shall:

- repeat the combined routing area updating procedure

Case 4) A timer T3330 timeout has occurred during a combined routing area updating procedure with the Routing area attempt counter five and the <u>RetansmissionRetransmission</u> counter five.

At step24, UE shall:

- not initiate a routing area updating procedure.

Case5) The timer T3302 expires

At step25, UE shall:

- initiate the new routing area updating procedure

# 12.4.2.8 Combined routing area updating / abnormal cases / change of cell into new routing area

12.4.2.8.1 Definition

# 12.4.2.8.2 Conformance requirement

When a change of cell into a new routing area is performed before the routing area updating procedure is finished, the UE shall abort the routing area updating procedure and re-initiate it in the new routing area.

Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.8.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

12.4.2.8.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC1/RAC3 (RAI-5). All three cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update into a new routing area. The UE shall re-initiate a routing area updating procedure in the new routing area. The UE shall not increment the attempt counter.

Step	Direction	Message	Comments
	UE SS		
	SS		The following messages are sent and shall be
			received on cell A.
1	SS		The SS activates cell A. Set the cell type of cell
			A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour ceil.
2	115		The LIE is newered up or switched on and
2	UL		initiates an attach (see ICS
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'
Ũ	-		Mobile identity =IMSI
			TMSI status = no valid TMSI available
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
			Mobile identity = IMSI
5	->	ATTACH COMPLETE	
			The following messages are sent and shall be
			received on cell B.
6	SS		The SS deactivates cell A and activates cell
			B-Set the cell type of cell A to the "Suitable
			<u>neighbour cell".</u>
			Set the cell type of cell B to the "Serving cell".
7			(note) Coll D is proferred by the LIE
/ 8	UE		Lindate type - 'Combined RA/LA undating'
0		REQUEST	P-TMSI-2 signature
		TLEQ0E01	Routing area identity – RAI-1
			TMSI status = no valid TMSI available
9	SS		No response id given from the SS.
-			The following messages are sent and shall be
			received on cell C.
10	SS		Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Serving cell".
			(note)Activate cell C with a lower signal
			strength than cell B.
11	UE		The RF level of cell B is lowered, and the RF
			level of cell C is increased, until cell C is
10			preferred by the UE.
12	->		D TMSL 2 signature
		REQUEST	P = 100 = 2  signature
			TMSI status = no valid TMSI available
13	<i>(</i> -	ROUTING AREA LIPDATE	Indate result – 'Combined RA/LA undated'
10		ACCEPT	Mobile identity = $P-TMSI-1$
			P-TMSI-1 signature
			Mobile identity = IMSI
			Routing area identity = RAI-5
14	->	ROUTING AREA UPDATE	
		COMPLETE	
15	UE		The UE is switched off or power is removed
			(see ICS).
16	->	DETACH REQUEST	Message not sent if power is removed.
			Detach type = 'power switched off, combined
			PS/IMSI detach'
OTE: T	he definition	s for "Suitable neighbour cell" and "S	erving cell" are specified in TS34.108 clause6.1

"Reference Radio Conditions for signalling test cases only".
#### Specific message contents

None.

12.4.2.8.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate the routing area update procedure.

At step12, when change of cell into new routing area is performed before the routing area updating procedure is finished, UE shall:

- abort the routing area updating procedure.
- re-initiate new routing area updating procedure in the new routing area.

# 12.4.2.9 Combined routing area updating / abnormal cases / change of cell during routing area updating procedure

### 12.4.2.9.1 Definition

### 12.4.2.9.2 Conformance requirement

When a change of cell within new routing area is performed before the routing area updating procedure is finished, the UE shall perform the cell update before the routing area updating procedure is finished.

#### Reference

3GPP TS 24.008 clause 4.7.5.2.

#### 12.4.2.9.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

#### 12.4.2.9.4 Method of test

Initial condition

# System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4), cell C in MCC1/MNC1/LAC1/RAC2 (RAI-4). All three cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI. UE is Idle Updated on cell A.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure. The ROUTING AREA UPDATE ACCEPT message is delayed from the SS. The UE performs a cell update within the routing area. The UE then waits for the ROUTING AREA UPDATE ACCEPT message.

# Expected Sequence

1	<u>UE</u> <u>55</u> SS		The following messages are sent and shal
1	33		I The following messages are sent and shall
1	00		
1			The OO patients and A Oot the call time of
	55		The SS activates cell A. Set the cell type o
			A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			Set the cell type of cell C to the "Suitable
			neighbour cell".
			(note)
2	UE		The UE is powered up or switched on and
_			initiates an attach (see ICS
3	->	ATTACH REQUEST	Attach type – 'Combined PS / IMSI attach
0	-		Mobile identity -IMSI
			TMSL status – po volid TMSL ovoilable
4			10051  status = 10  value  10051  available
4	<-	ATTACH ACCEPT	Attach result = Combined PS / IMSI attac
			Mobile identity = P-TMSI-2
ľ			P-TMSI-2 signature
			Routing area identity = RAI-1
l			Mobile identity = IMSI
5	->	ATTACH COMPLETE	-
			The following messages are sent and sha
			received on cell B.
6	SS		The SS deactivates cell A and activates c
-			B.Set the cell type of cell A to the "Suitable
			neighbour cell"
			Set the cell type of cell B to the "Serving of
			(noto)
7			
/	UE		Cell B is preferred by the UE.
8	->	ROUTING AREA UPDATE	Update type = Combined RA/LA updating
		REQUEST	P-TMSI-2 signature
			Routing area identity = RAI-1
			TMSI status = no valid TMSI available
9	SS		No response id given from the SS.
			The following messages are sent and sha
			received on cell C.
10	SS		Set the cell type of cell B to the "Suitable
			neighbour cell"
ľ			Set the cell type of cell C to the "Soming c
			(note) Activate coll C with a lower signal
l			trongth than call P
			The DE level of cell D is the set of the set
11	UE		The RF level of cell B is lowered until cell
			preferred by the UE.
12a	->	CELL UPDATE	Cell update cause = 'cell reselection'
12b	<-	CELL UPDATE CONFIRM	
13	<-	ROUTING AREA UPDATE	Update result = 'Combined RA/LA update
ľ		ACCEPT	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
l			Mobile identity = IMSI
ľ			Routing area identity = $RAI-4$
14	->	ROUTING AREA LIPDATE	
14			
15			The LIE is ewitched off or power is remain
CI	UE		The UE is switched off or power is remove
4.5			(see ICS).
16	->	DETACH REQUEST	Message not sent if power is removed.
I			Detach type = 'power switched off, combir
			PS/IMSI detach'

Specific message contents

None.

#### 12.4.2.9.5 Test requirements

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step12a, when a change of cell within a new routing area is performed before the routing area updating procedure is finished, UE shall:

- perform the cell update.
- 12.4.2.10 Combined routing area updating / abnormal cases / PS detach procedure collision
- 12.4.2.10.1 Definition
- 12.4.2.10.2 Conformance requirement
  - 1) When a detach request is received with cause 'PS detach' or 'combined PS/IMSI detach' by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall terminate the routing area updating procedure and continue with the PS detach procedure.
  - 2) When a detach request is received with cause 'IMSI detach' by the UE while waiting for a ROUTING AREA UPDATE ACCEPT message, the UE shall ignore the detach request and continue with the routing area updating procedure.

#### Reference

3GPP TS 24.008 clause 4.7.5.2.

12.4.2.10.3 Test purpose

To test the behaviour of the UE in case of procedure collision.

- 12.4.2.10.4 Method of test
- 12.4.2.10.4.1 Test procedure1

Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I.

User Equipment:

The UE has a valid IMSI.

#### Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

# Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a PS detach procedure with cause 'PS detach' or 'combined PS/IMSI detach'. The UE shall terminate the routing area updating procedure and continue with the PS detach procedure.

# **Expected Sequence**

Step	Direction	Message	Comments		
	UE SS	1			
	SS		The following messages are sent and shall be		
			received on cell A.		
1	SS		The SS activates cell A. Set the cell type of cell		
			A to the "Serving cell".		
			Set the cell type of cell B to the "Suitable		
			neighbour cell".		
			(note)		
2	UE		The UE is powered up or switched on and		
			initiates an attach (see ICS.		
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'		
			Mobile identity =IMSI		
			IMSI status = no valid IMSI available		
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'		
			Mobile identity = $P-IMSI-2$		
			P-IMSI-2 signature		
			Routing area identity = RAI-1		
-			Mobile Identity = IMSI		
5	->		The following measures are cart and shall be		
			The following messages are sent and shall be		
6	<u> </u>		The SS departive tes call A and activates call		
0			B Set the cell type of cell A to the "Suitable		
			b- <u>Set the cell type of cell A to the Suitable</u>		
			Set the cell type of cell B to the "Serving cell"		
			(note)		
7	UF		Cell B is preferred by the UE		
8	->	ROUTING AREA UPDATE	Update type = 'Combined RA/LA updating'		
Ũ	-	REQUEST	P-TMSI-2 signature		
			Routing area identity = RAI-1		
			TMSI status = no valid TMSI available		
9	SS		The SS ignores the ROUTING AREA UPDATE		
			REQUEST message and initiates a detach		
			procedure.		
10	<-	DETACH REQUEST	Detach type = 're-attach not required'		
11	->	DETACH ACCEPT			
NOTE: T	he definition	s for "Suitable neighbour cell" and "S	Serving cell" are specified in TS34.108 clause6.1		
"F	"Reference Radio Conditions for signalling test cases only".				

### Specific message contents

None.

12.4.2.10.4.2 Test procedure2

# Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode I.

#### User Equipment:

The UE has a valid P-TMSI, P-TMSI signature and RAI.

Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

### Test procedure

The UE initiates a routing area updating procedure. The SS does not answer the routing area updating procedure, but initiates a PS detach procedure with cause 'IMSI detach'. The UE shall ignore the detach procedure and continue with the routing area updating procedure.

# **Expected Sequence**

	Step	Direction	Message	Comments
		SS		The following messages are sent and shall be
	4	00		received on cell A.
	1	55		Set the cell type of cell A to the "Serving cell".
				Set the cell type of cell B to the Suitable
				neighbour ceir.
	2			The LIE is powered up or switched on and
	2	UL		initiates an attach (see ICS
	З	->	ATTACH REQUEST	Attach type – 'Combined PS / IMSI attach'
	0	-		Mobile identity =IMSI
				TMSI status = no valid TMSI available
	4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'
				Mobile identity = P-TMSI-2
				P-TMSI-2 signature
				Routing area identity = RAI-1
				Mobile identity = IMSI
	5	->	ATTACH COMPLETE	
				The following messages are sent and shall be
				received on cell B.
	6	SS		The SS deactivates cell A and activates cell
				B. <u>Set the cell type of cell A to the "Suitable</u>
				neighbour cell".
				Set the cell type of cell B to the "Serving cell".
	7			(note) Coll B is proferred by the LIE
	/ 0	UE		Lindate type = 'Combined RA/LA undating'
	0	->		P-TMSI-2 signature
			REQUEUT	Routing area identity – RAI-1
				TMSL status = no valid TMSL available
	9	SS		The SS ignores the ROUTING AREA UPDATE
	÷			REQUEST message and initiates a detach
				procedure.
	10	<-	DETACH REQUEST	Detach type = 'IMSI detach'
	11	UE		The UE ignores the DETACH REQUEST
				message and continue the routing area
				updating procedure.
	12	<-	ROUTING AREA UPDATE	Update result = 'Combined RA/LA updated'
			ACCEPT	Mobile identity = P-TMSI-1
				P-TMSI-1 signature
				Mobile identity = IMSI
	10			Routing area identity = RAI-4
1	13	->		
	14			The LIE is switched off or newer is removed
1	14	UE		
	15	->	DETACH REQUEST	Message not sent if nower is removed
	10	->		Detach type = 'power switched off combined
1				PS/IMSI detach'
N	OTE	ne definition	s for "Suitable neighbour cell" and "S	erving cell" are specified in TS34 108 clause6 1

<u>NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1</u> <u>(Reference Radio Conditions for signalling test cases only".</u>

#### Specific message contents

None.

12.4.2.10.5 Test requirements

### Test requirements for Test procedure1

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step11, when the UE receives a DETACH REQUEST message with cause 'PS detach' or 'combined PS/IMSI detach' from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- terminate the routing area updating procedure
- continue with the PS detach procedure.

#### Test requirements for Test procedure2

At step3, when the UE is powered up or switched on, UE shall:

- initiate the combined PS attach procedure with the information elements specified in the above Expected Sequence.

At step8, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- initiate routing area update procedure.

At step11, the UE receives a DETACH REQUEST message with cause 'IMSI detach' from SS while waiting for a ROUTING AREA UPDATE ACCEPT message, UE shall:

- ignore the detach request procedure.
- continue with the routing area updating procedure.

# 

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# 12.4.3.3 Periodic routing area updating / no cell available / network mode I

12.4.3.3.1 Definition

# 12.4.3.3.2 Conformance requirement

If the UE is both IMSI attached for PS and non-PS services, and if the UE lost coverage of the registered PLMN and timer T3312 expires; if the UE returns to coverage in a cell that supports PS and the network is in network operation mode I, then the UE shall perform a combined routing area update procedure <u>indicating 'combined RA/LA updating</u> with IMSI attach'.

# Reference

3GPP TS 24.008 clauses 4.7.2.2 and 4.7.5.1.

# 12.4.3.3.3 Test purpose

To test the behaviour of the UE with respect to the periodic routing area updating procedure.

# 12.4.3.3.4 Method of test

#### Initial condition

# System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Cell A is operating in network operation mode II and cell B is in network operation mode I.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

Idle updated on Cell A

# Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

# Test procedure

The UE initiates a PS attach procedure. The SS reallocates the P-TMSI and returns ATTACH ACCEPT message with a new P-TMSI and timer T3312. The UE acknowledge the new P-TMSI by sending ATTACH COMPLETE message. PS radio contact is distorted before T3312 timeout. PS radio contact is established again (after T3312 timeout), and a routing area updating procedure is performed immediately.

T3312; set to 6 minutes.

1

# Expected Sequence

Step	Direction UE SS	Message	Comments
	SS		The following messages are sent and shall the
			received on cell A.
1	SS		The SS activates cell A. Set the cell type of c
			A to the "Serving cell".
			Set the cell type of cell B to the "Suitable
			neighbour cell".
			(note)
2	SS		The UE is set in UE operation mode A (see
			ICS).
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS).
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = $P$ -TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
			$T_{3312} = 6 \text{ minutes}$
6	->	ATTACH COMPLETE	
7	SS		After 5 minutes, the signal strength is lower
,	00		until the LIE baye has lost contact with the S
8	88		Wait 2 minutes
0	00		The following messages are sent and shall
			received on cell B
٥	22		The SS deactivates cell A and activates cell
9			P Set the cell type of cell A to the "Suiteble
			B-Set the cell type of cell A to the Suitable
			Ret the cell time of cell D to the "Coming cel
			Set the cell type of cell B to the Serving cell
10			( <u>note)</u> Call D is preferred by the UE
10			The UE immediately starts a combined DA
E1	UE		undefing procedure
40			updating procedure
١Z	->		UNCL attack
		REQUESI	IIVISI attach
			P-1 MOI-2 Signature
			Routing area identity = RAI-1
			I IVISI STATUS = VAIIO I MSI AVAIIADIE OF IE IS
40			
13	<-		Update result = "Combined RA/LA updated"
		AUGEPT	NODIE IGENTITY = $P-1MSI-3$
			P-IMSI-3 signature
			Mobile identity = 1 MSI-2
			Routing area identity = RAI-4
14	->	ROUTING AREA UPDATE	
		COMPLETE	
	UE		The UE is switched off or power is removed
15			(see ICS).
15			Magazara not cont if nowar is removed
15 16	->	DETACH REQUEST	message not sent if power is removed.
15 16	->	DETACH REQUEST	Detach type = 'power switched off, combine
15 16	->	DETACH REQUEST	Detach type = 'power switched off, combine PS / IMSI detach'

Specific message contents

None.

# 12.4.3.3.5 Test requirements

At step4, when the UE is powered up or switched on, UE shall:

- initiate the PS attach procedure with the information elements specified in the above Expected Sequence.

At step12, when the UE is both IMSI attached for PS and non-PS service, and if the UE lost coverage of the reiterated PLMN and the timer T3312 expires, if the UE returns to coverage in a cell that supports PS and the network is in network oration mode I, UE shall:

- perform the combined routing area update procedure indicating "combined RA/LA updating with IMSI attach".

# 12.6.1.1 Authentication accepted

12.6.1.1.1 Definition

#### 12.6.1.1.2 Conformance requirement

A User Equipment shall correctly respond in an authentication and ciphering procedure by sending a response with the RES information field set to the same value as the one produced by the authentication and ciphering algorithm in the network.

#### Reference

3GPP TS 24.008 clause 4.7.7.

# 12.6.1.1.3 Test purpose

To test the behaviour of the UE if the network accepts the authentication and ciphering procedure.

12.6.1.1.4 Method of test

#### Initial condition

#### System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

Both cells are operating in network operation mode II.

# User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No UE operation mode C Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

A PS attach is performed, and the SS initiates an authentication and ciphering procedure.

The SS checks the value RES sent by the UE in the AUTHENTICATION AND CIPHERING RESPONSE message.

The UE initiates a routing area updating procedure and the SS checks the value of the PS Ciphering Key Sequence Number sent by the UE in the ROUTING AREA REQUEST message.

**Expected Sequence** 

Step	Direction	Message	Comments
			The following messages are sent and shall b
			received on cell A.
1	SS		The SS activates cell A Set the cell type of c
•	00		A to the "Serving cell"
			Set the cell type of cell B to the "Off cell"
			(note)
2			The LIE is set in LIE operation mode C (see
2	UL		Ine of is set in of operation mode C (see
			roto stop 17
2			The LIE is newered up or ewitched on and
3	UE		initiates on attach (and LCC)
4			Initiates an attach (see ICS).
4	->	ATTACH REQUEST	Attach type = PS attach
_			Mobile identity = IMSI
5	<-	AUTHENTICATION AND	Request authentication.
		CIPHERING REQUEST	Set PS-CKSN-1
6	->	AUTHENTICATION AND	RES
		CIPHERING RESPONSE	
7	SS		The SS checks the RES value.
8	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-2
			P-TMSI-2 signature
			Routing area identity = RAI-1
9	->	ATTACH COMPLETE	<b>5</b> , <b>5</b> , <b>1</b>
			The following messages are sent and shall t
			received on cell B
10	SS		Activate cell B with a lower signal strength th
10	00		cell A The RF level of cell A is lowered until
			B is preferred by the LIE Set the cell type of
			A to the "Off cell"
			<u>A to the coll type of cell R to the "Serving cell</u>
			Set the centype of cent b to the Serving cent
4.4			( <u>III)</u>
11	->		Diputate type = RA updating
		REQUEST	P-IMSI-2 signature
			Routing area identity = RAI-1
			PS-CKSN-1
12	SS		The value of PS-CKSN is checked
13	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
		ACCEPT	Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-4
14	->	ROUTING AREA UPDATE	
		COMPLETE	
15	UE		The UE is switched off or power is removed
-			(see ICS).
16	->	DETACH REQUEST	Message not sent if power is removed
			Detach type = 'power switched off PS detac
17	99		Set the cell type of cell A to the "Serving cell
17			Set the cell type of cell A to the Serving cell
			Set the cell type of cell B to the Off cell".
			(note) Keset the KF level of cell /\ to default
4.6	· · · -		State. Deactivate cell B.
18	UE		The UE is set in UE operation mode A (see
			ICS) and the test is repeated from step 3 to
	1		Isten 16

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

Specific message contents

None.

12.6.1.1.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step6, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message form SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message with the RES information field set to the same value as the one produced by the authentication and ciphering algorithm in the network.

At step11, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- perform routing area updating procedure.

# 12.6.1.2 Authentication rejected by the network

# 12.6.1.2.1 Definition

#### 12.6.1.2.2 Conformance requirement

Upon receipt of an AUTHENTICATION AND CIPHERING REJECT message, the UE shall set the PS update status to GU3 ROAMING NOT ALLOWED and shall delete the P-TMSI, P-TMSI signature, RAI and PS ciphering key sequence number stored

The USIM shall be considered as invalid until switching off or the USIM is removed.

If the AUTHENTICATION AND CIPHERING REJECT message is received, the UE shall abort any GMM procedure, shall stop the timers T3310 and T3330 (if running) and shall enter state GMM-DEREGISTERED

1) After reception of an Authentication Reject message the UE shall:

1.1 not perform normal routing area updating

1.2 not perform periodic routing area updating

1.3 not perform PS detach if switched off

2) The UE shall delete the stored RAI, PS CKSN P TMSI and P TMSI signature. USIM shall be considered invalid until power is switched off or USIM is removed.

#### Reference

3GPP TS 24.008 clauses 4.7.7.5

12.6.1.2.3 Test purpose

To test the behaviour of the UE if the network rejects the authentication and ciphering procedure.

12.6.1.2.4 Method of test

Initial condition

#### System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No

UE operation mode C Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

The test sequence is repeated for K = 1, 2.

A <u>complete</u> PS attach <u>procedure</u> is performed<u>.</u>, and <u>t</u>The SS rejects the <u>following</u> authentication and ciphering procedure. <u>The UE is paged with its former P-TMSI and shall not respond</u>. <u>The Cell is changed into a new Routing Area</u>.

The SS checks that the UE does not perform normal routing area updating., does not perform periodic routing area updating.

The SS then checks that the UE and does not perform a PS detach if switched off.

The SS checks that the UE does not perform a PS Attach procedure.

T3312; set to 10 minutes.

Expected Sequence

The test sequence is repeated for k = 1, 2

For k = 1, the UE is set in UE operation mode C. If MS operation mode C not supported then k = 2.

For k = 2 the UE is set in UE operation mode A.

1

Step	Direction	Message	Comments
	UE 33		The following messages are sent and shall be
			received on cell A.
1	SS		The SS activates cell A. <u>Set the cell type of cell</u>
			Set the cell type of cell B to the "Off cell".
			(note)
¥	UE		The UE is set in UE operation mode C (see ICS). If UE operation mode C not supported.
			goto step 14.
<u>2</u> 3	UE		The UE is powered up or switched on and
34	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = IMSI
4	<u>&lt;-</u>	ATTACH ACCEPT	<u>Attach result = 'PS only attached'</u> Mobile identity = P-TMSI-1
			P-TMSI-1 signature
F			Routing area identity = RAI-1
<u>5</u> 56	- <u>&gt;</u> <-	AUTHENTICATION AND	Request authentication.
_		CIPHERING REQUEST	Set PS-CKSN-1
<u>7</u> 6	->	AUTHENTICATION AND	RES
<u>8</u> 7	<-	AUTHENTICATION AND	
00			Mahila idantity - IMSI
<u>3</u> 0	<-		Paging order is for PS services.
<u>10</u> 9	UE		No response from the UE to the request. This
			is checked for 10 seconds.
			received on cell B.
<del>10<u>11</u></del>	SS		Activate cell B with a lower signal strength than
			B is preferred by the UE.
			Set the cell type of cell A to the "Off cell".
			Set the cell type of cell B to the "Serving cell".
<u>12</u>	<u>UE</u>		Cell B is preferred by the MS.
<u>13</u> 11	UE		No ROUTING AREA UPDATE REQUEST sent
			(SS waits 30 seconds).
<del>12</del>	UE		No periodic ROUTING AREA UPDATE
			REQUEST Sent to the SS (SS waits Periodic Routing Area Updating timer
			(T3312) after the Authentication and Ciphering
14	HE		Reject message.)
14			by MMI or by AT command.
<u>15</u>	<u>UE</u>		No ATTACH REQUEST sent to the SS
<del>13</del> 16	UE		The UE is switched off (see ICS).
<u>17</u> 14	SS		No DETACH REQUEST sent to the SS
18			(SS waits 30 seconds).
10			initiates an attach (see ICS).
			Step 19 is only performed for k =2
<u>19</u>	<u>UE</u>	Registration on CS	Parameter mobile identity is IMSI.
20			See TS 34.108
20	2	ATTACH REQUEST	$\frac{\text{Attach type = PS only attached}}{\text{Mobile identity = IMSI}}$
04			Attach result (DS attach)
21			Mobile identity = P-TMSI-1
			P-TMSI-1 signature
22	->	ATTACH COMPLETE	Routing area identity = RAI-2

<del>15</del>	<del>UE</del>	The UE is set in UE operation mode A (see					
		ICS). Restore cell A and B according to initial					
		conditions. The test is repeated from step 3 to					
		step 14.					
NOTE	NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio						
	Conditions for signalling test cases only".						

Specific message contents

None.

12.6.1.2.5 Test requirements

At step<u>34</u>, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step9, when the UE receives the AUTHENTICATION AND CIPHERING REJECT message, UE shall:

- not respond paging message for PS domain.

At step134, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- not perform normal routing area updating.

At step12, when the timer T3312 expires, UE shall:

At step174, when the UE is switched off, UE shall:

- not perform PS detach procedure.

# 12.6.1.3 Authentication rejected by the UE

- 12.6.1.3.1 GMM cause 'MAC failure'
- 12.6.1.3.1.1 Definition

#### 12.6.1.3.1.2 Conformance requirement

If the UE considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid, the UE shall send AUTHENTICATION AND CIPHERING FAILURE message with the reject cause 'MAC failure' to the System Simulator.

#### Reference

3GPP TS 24.008 clause 4.7.7.

### 12.6.1.3.1.3 Test purpose

To test the behaviors of the UE, when the UE considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid.

12.6.1.3.1.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

The MAC (Message Authentication Code) code, which is included in AUTHENTICATION AND CIPHERING REQUEST, is invalid value.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUE operation mode CYes/NoSwitch off on buttonYes/NoAutomatic PS attach procedure at switch on or power onYes/No

Test procedure

A PS attach is performed, and the SS initiates an authentication and ciphering procedure.

The UE sends AUTHENTICATION AND CIPHERING FAILURE message with reject cause 'MAC failure' to the SS and starts timer T3214.

The SS initiates an identification procedure, upon receipt of a failure message with reject cause 'MAC failure'.

After the identification procedure is complete, the SS re-initiates an authentication and ciphering procedure.

T3360; set to 6 seconds.

T3318; set to 5 seconds.

# **Expected Sequence**

Step	Direction	Message	Comments
1	SS		The following messages are sent and shall be received on cell A. The SS activates cell A.Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell".
2	UE		(note) The UE is set in UE operation mode C (see ICS). If UE operation mode C is not supported, goto step 25
3 4	UE		The following messages are sent and shall be
5	UE		The UE is powered up or switched on and initiates on others (and UCS)
6	->	ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
7	<-	AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Invalid Message Authentication Code (MAC).
9	->	AUTHENTICATION AND	GMM cause='MAC failure'
10 11	<- -> SS	IDENTITY REQUEST IDENTITY RESPONSE	Identity type = IMSI Mobile identity = IMSI
13	<-	AUTHENTICATION AND	Request authentication.
14	->	AUTHENTICATION AND CIPHERING RESPONSE	RES
15 16	SS <-	ATTACH ACCEPT	The SS checks the RES value. Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
17	->	ATTACH COMPLETE	The following messages are sent and shall be
18	SS		received on cell B. <u>Cell B is activated and cell A is deactivated.Set</u> the cell type of cell A to the "Off cell". <u>Set the cell type of cell B to the "Serving cell"</u> .
19	->	ROUTING AREA UPDATE REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1 PS-CKSN-1
20 21	SS <-	ROUTING AREA UPDATE ACCEPT	The value of PS-CKSN is checked Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Bouting cross identity = BAL2
22	->	ROUTING AREA UPDATE	Routing area identity = RAI-2
23	UE		The UE is switched off or power is removed
24	->	DETACH REQUEST	Message is not sent if power is removed. Detach type = 'power switched off. PS detach'
25	UE		The UE is set in UE operation mode A (see ICS) and the test is repeated from step 1 to step 24.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only". Specific message contents

None.

12.6.1.3.1.5 Test requirements

At step6, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information element specified in the above Expected Sequence.

At step9, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST with Invalid Message Authentication Code, UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS

At step11, when the UE receives the IDENTITY REQUEST message with Identity type = IMSI from SS, UE shall:

- send the IDENTITY RESPONSE message with Mobile identity = IMSI to SS.

At step14, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message (containing a valid MAC) from SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message to SS
- 12.6.1.3.2 GMM cause 'Synch failure'

12.6.1.3.2.1 Definition

# 12.6.1.3.2.2 Conformance requirement

If the UE considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, the UE shall send AUTHENTICATION AND CIPHERING FAILURE message with the reject cause 'Synch failure' to the System Simulator.

#### Reference

3GPP TS 24.008 clause 4.7.7.

#### 12.6.1.3.2.3 Test purpose

To test the behaviors of the UE, when the UE considers the SQN (supplied by the core network in the AUTN parameter) to be out of range.

12.6.1.3.2.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

# Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUE operation mode CYes/No

Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

### Test procedure

A PS attach is performed, and the SS initiates an authentication and ciphering procedure.

UE sends AUTHENTICATION AND CIPHERING FAILURE message with reject cause 'synch failure' to the SS and starts timer T3214.

SS re-initiates an authentication and ciphering procedure.

T3360; set to 6 seconds.

T3320; set to 15 seconds.

### **Expected Sequence**

	Step	Direction	Message	Comments
		UE SS		
				The following messages are sent and shall be
				received on cell A.
	1	SS		The SS activates cell A.Set the cell type of cell
				A to the "Serving cell".
				Set the cell type of cell B to the "Off cell".
				(note)
	2	UE		The UE is set in UE operation mode C (see
				ICS). If UE operation mode C is not supported,
				goto step 21.
				The following messages are sent and shall be
				received on cell A.
	3	UE		The UE is powered up or switched on and
				initiates an attach (see ICS).
	4	->	ATTACH REQUEST	Attach type = 'PS attach'
	_			Mobility identity = IMSI
	5	<-		Request authentication.
	<u>^</u>	00	CIPHERING REQUEST	SQN is out of range.
	6	55		Child source - Surgeb failure
	1	->		GIVINI cause = Synch failure
	0		CIPHERING FAILURE	AUTS parameter
	0			set new authentication vectors. (re-
	0	-		Poquest authoritication
	3	<b>N</b> ⁻		Including PS-CKSN-1
	10	->		RES
	10	-	CIPHERING RESPONSE	
	11	SS		The SS checks the RES value.
	12	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
				Mobile identity = $P-TMSI-2$
				P-TMSI-2 signature
				Routing area identity = RAI-1
	13	->	ATTACH COMPLETE	5
Ī				The following messages are sent and shall be
				received on cell B.
	14	SS		
				Cell B is activated, cell A is deactivated. Set the
				cell type of cell A to the "Off cell".
				Set the cell type of cell B to the "Serving cell".
				(note)
	15	->	ROUTING AREA UPDATE	Update type = 'RA updating'
			REQUEST	P-TMSI-2 signature
				Routing area identity = RAI-1
				PS-CKSN-1
	16	SS		The value of PS-CKSN is checked

Step	Direction	Message	Comments		
-	UE SS				
17	<-	ROUTING AREA UPDATE ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2		
18	->	ROUTING AREA UPDATE COMPLETE			
19	UE		The UE is switched off or power is removed (see ICS).		
20	->	DETACH REQUEST	Message is not sent if power is removed. Detach type = 'power switched off, PS detach'		
21	UE		The UE is set in UE operation mode A (see ICS) and the test is repeated from step 1 to step 20.		
NOTE: T	he definitions	s for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radic		
C	Conditions for signalling test cases only"				

#### Specific message contents

None.

# 12.6.1.3.2.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information element specified in the above Expected Sequence.

At step7, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message(SQN is out of range.), UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'synch failure' to the SS

At step10, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message from SS, UE shall:

- send the AUTHENTICATION AND CIPHERING RESPONSE message to SS.

At step15, when the RF level of the attached cell is lower than the RF level of the new cell, UE shall:

- perform routing area updating procedure.
- 12.6.1.3.3 Authentication rejected by the UE / fraudulent network
- 12.6.1.3.3.1 Definition
- 12.6.1.3.3.2 Conformance requirement

It can be assumed that the source of the authentication challenge is not genuine (authentication not accepted by the UE) if any of the following occur:

- After sending the AUTHENTICATION & CIPHERING FAILURE message with GMM cause 'MAC failure' the timer T3318 expires;
- Upon receipt of the second AUTHENTICATION & CIPHERING REQUEST message from the network while the T3318 is running and the MAC value cannot be resolved.

If the UE deems that the network has failed in the authentication check, then the UE shall treat the cell where the AUTHENTICATION & CIPERHERING REQUEST message was received as barred, until System Information is refreshed.

#### Reference

3GPP TS 24.008 clause 4.7.7.6.1.

12.6.1.3.3.3 Test purpose

To test UE treating a cell as barred:

1. when the network sends the second AUTHENTICATION & CIPHERING REQUEST message with invalid MAC code during the timer T3318 is running.

2. when the timer T3318 has expired.

12.6.1.3.3.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1(RAI-1), cell B in MCC1/MNC1/LAC1/RAC2(RAI-2). Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS serviceYes/NoUE operation mode AYes/NoUE operation mode CYes/NoAutomatic PS attach procedure at switch on or power onYes/No

#### Test procedure

Two cells are configured. Cell A transmits with higher power so that the UE attempts an attach procedure to cell A.

During the attach procedure, the SS initiates an authentication and ciphering procedure but it sends an incorrect Message Authentication Code (MAC) value in its AUTHENTICATION AND CIPHERING REQUEST message.

The UE sends AUTHENTICATION AND CIPHERING FAILURE message to the SS indicating authentication failure.

The SS repeats a second time the authentication procedure, which fails again. Next, the UE shall attempt to attach to cell B, which again fails. In this case T3318 expires after the second attempt.

The UE shall treat now both cells as barred and shall not attempt to access the network, even if the user triggers the UE to perform an attach procedure.

# **Expected Sequence**

Step	Direction	Message	Comments
	UE SS		
1	SS		The SS is configures two cells A and B. Cell A transmits with higher power levels, so that the UE selects cell A for attaching. Set the cell typ of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell"
2	UE		(note) The following messages are sent and shall be received on cell A. The UE is powered up or switched on and
3	->	ATTACH REQUEST	Attach type = 'PS attach'
4	<-		Request for authentication.
5	->		GMM cause='MAC failure'
6	<-	AUTHENTICATION AND	Request for authentication.
7	->		GMM cause='MAC failure'
8	SS		SS verifies that the UE does not attempt to access the network for 30s
9	SS		The SS deactivates cell A and activates cell B-Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell". (note)
			UE shall attempt an attach on cell B. The following messages are sent and shall be
10	UE		The UE initiates an attach by MMI or AT
11	->	ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
12	<-	AUTHENTICATION AND	Request for authentication.
13	->	AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
14	SS		SS waits T3318 (20s)
15	SS		SS verifies that the UE does not attempt to access the network for 30s.
16	UE		The UE initiates an attach by MMI or AT command.
17	SS		SS verifies that the UE does not attempt to access the network for 30s.

NOTE: The definitions for "Off cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

# Specific message contents

None.

# 12.6.1.3.3.5 Test requirements

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step5, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC), UE shall:

- send the AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step7, when the UE receives the second AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC) from the network during a timer T3318 is running, UE shall:

- send an AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step11, when the activated cell is changed from cell A to cell B, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step13, when the UE receives the AUTHENTICATION AND CIPHERING REQUEST message with invalid Message Authentication Code (MAC), UE shall:

- send an AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS.

At step17, when the timer T3318 is expired, UE shall:

- not attempt to access the network.

# 12.8 GMM READY timer handling

The READY timer is not applicable for UMTS.

12.8.1 Definition

12.8.2 Conformance requirement

If a READY timer value is received by an UE capable of both UMTS and GSM in the ATTACH ACCEPT or the ROUTING AREA UPDATE ACCEPT messages, then the received value shall be stored by the UE in order to be used at an intersystem change from UMTS to GSM.

#### Reference

3GPP TS 24.008 clause 4.7.2.1

12.8.3 Test purpose

To verify the functionality of the READY timer.

12.8.4 Method of test

12.8.4.1 Test procedure1

#### Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC1 (RAI-1). Both cells are operating in network operation mode II.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

Test procedure

An attach is performed.

T3314; set to 60 seconds

# **Expected Sequence**

Step	Direction	Message	Comments		
	UE SS				
			The following messages are sent and shall be		
			received on cell A.		
1	SS		The SS activates cell A.Set the cell type of cell		
			A to the "Serving cell".		
			Set the cell type of cell B to the "Off cell".		
			(note)		
2	UE		The UE is set in UE operation mode A (see		
			ICS). If UE operation mode A not supported set		
			the UE in operation mode C.		
			The UE is powered up or switched on and		
			initiates an attach (see ICS).		
3	->	ATTACH REQUEST	Attach type = 'PS attach'		
			Mobile identity = IMSI		
4	<-	ATTACH ACCEPT	Attach result = 'PS only attached'		
			Mobile identity = P-TMSI-2		
			P-TMSI-2 signature		
			Routing area identity = RAI-1		
			T3314 = 60 seconds		
5	->	ATTACH COMPLETE			
6	UE		The UE is switched off or power is removed		
			(see ICS).		
7	->	DETACH REQUEST	Message not sent if power is removed.		
			Detach type = 'power switched off, PS detach'		
NOTE: T	he definitions	for "Off cell" and "Serving cell" are s	specified in TS34.108 clause6.1 "Reference Radio		
<u>C</u>	Conditions for signalling test cases only".				

# Specific message contents

None.

# 12.8.5 Test requirements

At step4, when the UE receives the ATTACH ACCEPT or the ROUTING AREA UPDATE ACCEPT messages, UE shall:

- store the received READY timer value.

# 

# 12.9.3 Service Request / rejected / Illegal MS

- 12.9.31 Definition
- 12.9.3.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "Illegal MS", the UE shall:

- 1) set the GPRS update status to GU3 ROAMING NOT ALLOWED and enter state GMM DEREGISTRATED.
- 2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.
- 3) consider the USIM as invalid for PS service until switched off or the USIM is removed.

#### Reference

TS 24.008 clauses 4.7.13.4

#### 12.9.3.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "Illegal MS".

12.9.3.4 Method of test

#### Initial condition

#### System Simulator:

One cell operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature, RAI-1 and IMSI.

# Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

#### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #3(Illegal MS).
- c) After the UE receives the SERVICE REJECT message with the cause value #3(Illegal MS), the UE deletes any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.
- d) The SS checks that the UE does not initiate an upper-layer signalling until the power of the UE is switched off.
- e) The SS checks that the UE does not initiate an upper-layer signalling until the USIM is removed from the UE.

I

# Expected Sequence

Step	Direction	Message	Comments
			The following message are sent and shall be
4			received on cell A.
1	UE		I ne UE is set in UE operation mode C (see ICS).
2	SS		The SS is set in network operation mode II and
2			activates cell A.
3			initiates an attach (see ICS). Cell A is preferred by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	No new mobile identity assigned.
			Routing area identity = RAI-1
			Attach result = 'PS only attached'
6 7	-> 11F	ATTACH COMPLETE	The LIE initiates an upper-layer signalling, e.g.
,	UL UL		Active PDP Context request, by MMI or by AT
8	->	SERVICE REQUEST	Service type = "signalling"
9	<-	SERVICE REJECT	Reject cause = "Illegal MS"
10	UE		Active PDP Context request, by MMI or by AT
11	SS		The SS verifies that the UE does not attempt to
			access the network.
12			(SS waits 30 seconds)
<del>13</del>	→	DETACH REQUEST	Detach type = 'power switched off, PS detach'
4.4			
14	UE		initiates an attach (see ICS). Cell A is preferred
			by the UE.
15	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = IMSI
16	<-	ATTACH ACCEPT	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			P-IMSI-1 signature Routing area identity = RAI-1
17	->	ATTACH COMPLETE	
18	UE		The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT
10			command.
20	->	SERVICE REJECT	Reject cause = "Illegal MS"
21	UE		The UE initiates an upper-layer signalling, e.g.,
			Active PDP Context request, by MMI or by AT
22	SS		The SS verifies that the UE does not attempt to
			access the network.
23	LIF		(SS waits 30 seconds) USIM is removed
20 24	->	DETACH REQUEST	
<u>24</u>	UE		USIM is inserted.
25	UE		command.
26	->	ATTACH REQUEST	Attach type = 'PS attach'
77			Mobile identity = IMSI
21	<-		Mobile identity = P-TMSI-1
			P-TMSI-1 signature
			Routing area identity = RAI-1

Step	Direc	tion	Message	Comments
	UE	SS		
28	-^	•	ATTACH COMPLETE	
29	UE	Ξ		The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
30	->	•	SERVICE REQUEST	Service type = "signalling"
<u>31</u>	<u>&lt;</u>	:	AUTHENTICATION AND CIPHERING REQUEST	
<u>32</u>	->	2	AUTHENTICATION AND CIPHERING RESPONSE	
<u>33</u>	<u>S8</u>	3		The SS initiate a security mode control procedure.
<u>34</u>	<u>S8</u>	<u>5</u>		After the security mode control procedure is completed, the SS releases RRC connection.
<u>35</u>	<u>U</u> E	1		The UE is switched off or power is removed (see ICS).
<u>36</u>	<u>-&gt;</u>	<u>-</u>	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

#### Specific message contents

None.

#### 12.9.3.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.
- At step11, when the UE receives the SERVICE REJECT message with cause "Illegal MS" UE shall:
  - not attempt to access the network.

At step15, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step22, when the UE receives the SERVICE REJECT message with cause "Illegal MS" UE shall:

- not attempt to access the network.

At step26, when the USIM is replaced, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step30, UE shall:

- initiate the service request procedure.

# 12.9.4 Service Request / rejected / PS services not allowed

# 12.9.41 Definition

### 12.9.4.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "PS services not allowed", the UE shall:

1) set the GPRS update state to GU3 ROAMING NOT ALLOWED.

- 2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.
- 3) consider the USIM as invalid for PS service until the UE is switched off or until the USIM is removed.

#### Reference

TS 24.008 clauses 4.7.13.4

#### 12.9.4.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "PS service not allowed".

12.9.4.4 Method of test

#### Initial condition

# System Simulator:

One cell operating in network operation mode II.

# User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #7(PS services not allowed).
- c) After the UE receives the SERVICE REJECT message with the cause value #7(PS services not allowed), the UE deletes any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.
- d) The SS checks that the UE does not initiate an upper-layer signalling until the UE is switched off.
- e) The SS checks that the UE does not initiate an upper-layer signalling until the USIM is removed from the UE.

# Expected Sequence

Step	Direction	Message	Comments
			The following message are sent and shall be
1			received on cell A.
1	UL		ICS).
2	SS		The SS is set in network operation mode II and
3	UE		The UE is powered up or switched on and
			initiates an attach (see ICS). Cell A is preferred
4	->	ATTACH REQUEST	Attach type = 'PS attach'
			Mobile identity = P-TMSI-1
			Routing area identity = RAI-1
5	<-	ATTACH ACCEPT	No new mobile identity assigned.
			Routing area identity = RAI-1
0			Attach result = 'PS only attached'
€ 7	UE		The UE initiates an upper-layer signalling, e.g.,
			Active PDP Context request, by MMI or by AT
8	->	SERVICE REQUEST	command. Service type = "signalling"
9	<-	SERVICE REJECT	Reject cause = "PS services not allowed"
10	UE		Active PDP Context request, by MMI or by AT
4.4			command.
11	55		access the network.
10			(SS wait 30seconds)
12 <del>13</del>		DETACH REQUEST	Detach type = 'power switched off, PS detach'
14	UE		The UE is powered up or switched on and
			by the UE.
15	->	ATTACH REQUEST	Attach type = 'PS attach'
16	<-	АТТАСН АССЕРТ	Attach result = 'PS only attached'
			Mobile identity = P-TMSI-1
			Routing area identity = RAI-2
17	->	ATTACH COMPLETE	
10	UE		Active PDP Context request, by MMI or by AT
10			command.
20	-> <-	SERVICE REQUEST	Reject cause = "PS services not allowed"
21	UE		The UE initiates an upper-layer signalling, e.g.,
			command.
22	SS		The SS verifies that the UE does not attempt to
			CSS wait 30seconds)
23	UE		USIM is removed.
<u>≁4</u> 24	UE	<del>DEIAGH REQUEOI</del>	USIM is inserted.
25	UE		The UE initiates a PS attach, by MMI or by AT
26	->	ATTACH REQUEST	Attach type = 'PS attach'
07			Mobile identity = IMSI
27	<-		Attach result = 'PS only attached' Mobile identity = P-TMSI-1
			P-TMSI-1 signature
28	->	ATTACH COMPLETE	Routing area identity = RAI-3

F	Step	Directio	n Message	Comments
		UE S	S	
	29	UE		The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
	30	->	SERVICE REQUEST	Service type = "signalling"
	<u>31</u>	<u>&lt;-</u>	AUTHENTICATION AND CIPHERING REQUEST	
	<u>32</u>	<u>-&gt;</u>	AUTHENTICATION AND CIPHERING RESPONSE	
	<u>33</u>	<u>SS</u>		The SS initiate a security mode control procedure.
	<u>34</u>	<u>SS</u>		After the security mode control procedure is completed, the SS releases RRC connection.
	<u>35</u>	<u>UE</u>		The UE is switched off or power is removed
	<u>36</u>	<u>^ </u>	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

Specific message contents

12.9.4.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives the SERVICE REJECT message with cause "PS services not allowed" UE shall:

- not attempt to access the network.

At step15, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step22, when the UE receives the SERVICE REJECT message with cause "PS services not allowed" UE shall:

- not attempt to access the network.

At step26, when the USIM is replaced, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step30, UE shall:

- initiate the service request procedure.

# 12.9.5 Service Request / rejected / MS identity cannot be derived by the network

- 12.9.5.1 Definition
- 12.9.5.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "MS identity cannot be derived by the network", the UE shall:

- 1) set the GPRS update states to GU2 NOT UPDATED.
- 2) delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number.

3) initiate the PS attach procedure automatically.

#### Reference

TS 24.008 clauses 4.7.13.4

12.9.5.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "MS identity cannot be derived by the network".

12.9.5.4 Method of test

Initial condition

System Simulator:

One cell operating in network operation mode II.

### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

# Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #9 (MS identity cannot be derived by the network).

# **Expected Sequence**

S	Step	Direction UE SS	Message	Comments
				The following message are sent and shall be
				received on cell A.
	1	UE		The UE is set in UE operation mode C (see ICS).
	2	SS		The SS is set in network operation mode II and activates cell A.
	3	UE		The UE is powered up or switched on and initiates an attach (see ICS). Cell A is preferred by the UE.
	4	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature
	5	<-	ATTACH ACCEPT	Routing area identity = RAI-1 No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1
	0			Attach result = 'PS only attached'
	<mark>⊖</mark> 7	UE		The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT command.
	8 9	-> <-	SERVICE REQUEST SERVICE REJECT	Service type = "signalling" Reject cause = "MS identity cannot be derived by the network"
	10	UE		The UE automatically initiates the PS attach
	11	->	ATTACH REQUEST	Attach type = 'PS attach'
	12	<-	ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2
	13	->	ATTACH COMPLETE	
	14	UE		The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT
	15			command.
	<u>16</u>	~ <-		Service type = signalling
	<u>17</u>	->	AUTHENTICATION AND CIPHERING RESPONSE	
	<u>18</u>	<u>SS</u>		The SS initiate a security mode control procedure.
	<u>19</u>	<u>SS</u>		After the security mode control procedure is completed, the SS releases RRC connection
2	20 <mark>16</mark>	UE		The UE is switched off or power is removed (see ICS).
2	<u>21</u> 47	->	DETACH REQUEST	Message not sent if power is removed. Detach type = 'power switched off, PS detach'

# Specific message contents

None.

# 12.9.5.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives the SERVICE REJECT message with cause "MS identity cannot be derived by the network" UE shall:

- initiate PS attach procedure automatically.

# 12.9.6 Service Request / rejected / PLMN not allowed

- 12.9.6.1 Definition
- 12.9.6.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "PLMN not allowed", the UE shall:

- 1) delete any RAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number.
- 2) set the GPRS update status to GU3 ROAMING NOT ALLOWED.
- 3) store the LAI or the PLMN identity in the appropriate forbidden list.

#### Reference

TS 24.008 clauses 4.7.13.4

#### 12.9.6.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "PLMN not allowed".

#### 12.9.6.4 Method of test

# Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1 cell B in MCC2/MNC1/LAC1/RAC1. All two cells are operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

#### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) After the SS receiving the SERVICE REQUEST message, the SS sends a SERVICE REJECT message with the cause value #11 (PLMN not allowed).
- c) The SS checks that the UE does not initiate an upper-layer signalling until the UE is switched off.
- d) The SS checks that the UE does not answer a Page from the SS until the power of the UE is switched off.
### Expected Sequence

1			The following measure are cent and shall be
	UE		received on cell A. The UE is set in UE operation mode C (see
2	SS		TCS). The SS is set in network operation mode II-and activates cell A
3	UF		Set the cell type of cell A to the "Serving cell". Set the cell type of cell B to the "Off cell". (note) The UE is powered up or switched on and
U	01		initiates an attach (see ICS). Cell A is preferred by the UE.
4	->	ATTACH REQUEST	Attach type = 'PS attach' Mobile identity = P-TMSI-1 P-TMSI-1 signature
5	<-	ATTACH ACCEPT	Routing area identity = RAI-1 No new mobile identity assigned. P-TMSI and P-TMSI signature not included. Routing area identity = RAI-1
<del>6</del>	→ 	ATTACH COMPLETE	Attach result = 'PS only attached'
1	UE		Active PDP Context request, by MMI or by AT command.
8 9 10	-> <- UE	SERVICE REQUEST SERVICE REJECT	Service type = "signalling" Reject cause = "PLMN not allowed" The UE stores the LAI or the PLMN identity in
11	UE		The "forbidden PLMN list". The UE initiates an upper-layer signalling, e.g., Active PDP Context request, by MMI or by AT
12	SS		Command. The SS verifies that the UE does not attempt to access the network.
13 14	<- UE	PAGING TYPE1	(SS wait 30second) Paging order is for PS service No response from the UE to the request. This is checked for 10 seconds.
15	SS		The following messages shall be sent and shall be received on cell B. The SS deactivates cell A and activates cell B.Set the cell type of cell A to the "Off cell". Set the cell type of cell B to the "Serving cell".
16 17	UE UE		Cell $\underline{\mathbf{D}}$ is preferred by the UE. The UE initiates an attach automatically, by
18	->	ATTACH REQUEST	Attach type = 'PS attach'
19	<-	ATTACH ACCEPT	Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-2 Attach result = 'PS only attached'
20 21	-> UE	ATTACH COMPLETE	The UE is switched off or power is removed
		DETAOL DEOLIEOT	(See ICS).

Specific message contents

None.

12.9.6.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.
- At step12, when the UE receives the SERVICE REJECT message with cause "PLMN not allowed", UE shall:
  - not perform a PS attach procedure in the same PLMN.
- At step13, when the UE receives the paging message for PS domain UE shall:
  - not respond to the paging message for PS domain.

At step18, UE shall:

- perform PS attach procedure.

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#### 12.9.7b Service Request / rejected / No Suitable Cells In Location Area

12.9.7b.1 Definition

12.9.7b.2 Conformance requirement

If the network rejects a service request procedure from the UE with the cause "No Suitable Cells In Location Area", the UE shall:

- 1) delete any RAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number.
- 2) set the GPRS update status to GU3 ROAMING NOT ALLOWED.
- 3) store the LAI or the PLMN identity in the list of 'forbidden location areas for roaming'.
- 4) search for a suitable cell in a different location area on the same PLMN.

#### Reference

TS 24.008 clauses 4.7.13.4

#### 12.9.7b.3 Test purpose

To test the behaviour of the UE if the network rejects the service request procedure with the cause "No Suitable Cells In Location Area".

#### 12.9.7b.4 Method of test

Initial condition

System Simulator:

Three cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC2/RAC1 (RAI-3), cell C in MCC2/MNC1/LAC1/RAC1 (RAI-2)

All three cells are operating in network operation mode II.

User Equipment:

The UE has valid IMSI.

#### Related ICS/IXIT statements

Support of PS service Yes/No UE operation mode A Yes/No Switch off on button Yes/No Automatic PS attach procedure at switch on or power on Yes/No

#### Test procedure

The SS rejects a Service request with the cause value 'No Suitable Cells In Location Area'. The SS checks that the UE shall perform PS attach procedure when the UE enters a suitable cell in a different location area on the same PLMN.

#### **Expected Sequence**

Step Direction		Message	Comments		
	UE SS				
	SS		The SS activates three cells simultaneously.		
			Set the cell type of cell A to the "Serving cell".		
			Set the cell type of cell B to the "Suitable		
			neighbour cell".		
			Set the cell type of cell C to the "Suitable		
			neighbour cell".		
			(note)		
			The SS configures power level of each Cell as		
			follows.		
			Cell A > Cell B = Cell C		
1	UE		The UE is set in UE operation mode A (see		
			ICS).		
2	UE		The UE is powered up or switched on and		
			initiates an attach (see ICS). Cell A is preferred		
			by the UE.		
3	->	ATTACH REQUEST	Attach type = 'Combined PS / IMSI attach'		
			Mobile identity = IMSI		
			TMSI status = no valid TMSI available		
4	<-	ATTACH ACCEPT	Attach result = 'Combined PS / IMSI attached'		
			Mobile identity = P-TMSI-1		
			P-TMSI-1 signature		
			Mobile identity = TMSI-1		
_			Routing area identity = RAI-1		
5	->	ATTACH COMPLETE			
6	SS		The SS initiates the RRC connection release.		
1	UE		The UE initiates a PS call, by MMI or by AT		
			command.		
8	->		Service type = "signalling"		
9	<-	SERVICE REJECT	Reject cause = "No Suitable Cells In Location		
			I ne following message are sent and shall be		
10			Attack time UDC attack		
10	->	ATTACH REQUEST	Allach lype = $PS$ allach Mobile identity = $IMSI$		
11	_		Mobile identity = IMSI		
11	<-		P TMSL 2 signature		
			P-1MSI-2 Signature Routing area identity - RAL2		
			Attach result $= 'PS$ only attached'		
12	-				
1∠ 12	->		The LIE is switched off or power is removed		
15	UE				
14	- `	DETACH REQUEST			
	->		an increally are energified in TC24.400 elevers0.4		

NOTE: The definitions for "Suitable neighbour cell" and "Serving cell" are specified in TS34.108 clause6.1 "Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

#### 12.9.7b.5 Test requirements

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step10, when the UE enters a suitable cell in a different location area on the same PLMN, UE shall:

- perform the PS attach procedure.

## 

### 12.9.9 Service Request / Abnormal cases / Routing area update procedure is triggered

12.9.9.1 Definition

#### 12.9.9.2 Conformance requirement

If a cell change into a new routing area occurs and the necessity of routing area update procedure is determined before the security mode control procedure is completed, the UE shall:

- abort Service request procedure.
- start routing area update procedure immediately.

#### Reference

TS 24.008 clause 4.7.13.5

#### 12.9.9.3 Test purpose

To test the behavior of the UE in case of collision between Routing area update procedure and Service request procedure.

#### 12.9.9.4 Method of test

#### Initial condition

System Simulator:

Two cells, cell A in MCC1/MNC1/LAC1/RAC1 (RAI-1), cell B in MCC1/MNC1/LAC1/RAC2 (RAI-4). Both cells are operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

#### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) The UE initiates the routing area update procedure.
- c) The UE aborts Service request procedure and performs Routing area updating procedure.

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### Expected Sequence

Γ	Step	Direction	Message	Comments
F		02 00		The following message are sent and shall be
				received on cell A.
	1	UE		The UE is set in UE operation mode C (see
	2	22		The SS is set in network operation mode ILand
	2	00		activates cell A.
				Set the cell type of cell A to the "Serving cell".
				Set the cell type of cell B to the "Suitable
				neignbour ceii".
	3	UE		The UE is powered up or switched on and
				initiates an attach (see ICS). Cell A is preferred
	4	->		by the UE. Attach type – 'PS attach'
	4	->	ATTACIT REQUEST	Mobile identity = P-TMSI-1
				P-TMSI-1 signature
	_			Routing area identity = RAI-1
	5	<-	ATTACH ACCEPT	NO NEW MODILE IDENTITY ASSIGNED.
				Routing area identity = $RAI-1$
				Attach result = 'PS only attached'
	<del>6</del>	→ 	ATTACH COMPLETE	The LIC initiates on upper lover signalling or
		UE		Active PDP Context request, by MMI or by AT
				command.
	7	->	SERVICE REQUEST	Service type = "signalling"
	8	SS		Activate cell B with a lower signal strength than
				B is preferred by the UE.
	9	UE		The UE aborts Service request procedure.
				Set the cell type of cell A to the "Suitable
				Set the cell type of cell B to the "Serving cell".
				(note)
				The following message are sent and shall be
	10	->	ROUTING AREA LIPDATE	received on cell B. Update type = 'RA updating'
	10	-	REQUEST	P-TMSI-2 signature
	11	<-	ROUTING AREA UPDATE	Update result = 'RA updated'
			ACCEPT	Mobile identity = P-TMSI-1
				Routing area identity = RAI-4
	12	->	ROUTING AREA UPDATE	
	40		COMPLETE	
	13	UE		Active PDP Context request by MMI or by AT
				command.
	14	->	SERVICE REQUEST	Service type = "signalling"
	<u>15</u>	<u>&lt;-</u>	AUTHENTICATION AND	
	16	->	AUTHENTICATION AND	
	<u></u>	<u>~</u>	CIPHERING RESPONSE	
	<u>17</u>	<u>SS</u>		The SS initiate a security mode control
	18	22		Procedure. After the security mode control procedure is
	10	<u>00</u>		completed, the SS releases RRC connection.
	<del>15<u>19</u></del>	UE		The UE is switched off or power is removed
	1000			(see ICS).
	<del>16<u>20</u></del>	->	DETACH REQUEST	Detach type = 'power switched off PS detach'
L	NOTE	ne definitions	for "Suitable neighbour cell" and "Se	erving cell" are specified in TS34 108 clause6 1

"Reference Radio Conditions for signalling test cases only".

#### Specific message contents

None.

#### 12.9.9.5 Test requirements

At step3, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence .

#### At step7, UE shall:

- perform the service request procedure.

At step10, when the routing area update procedure is initiated before the security mode control procedure is completed, UE shall;

- abort a Service request procedure
- perform the routing area updating procedure.

At step14, after the UE completes the routing area updating procedure, UE shall;

- restart the Service Request procedure.

# 12.9.11 Service Request / Abnormal cases / Service request procedure collision

12.9.11.1 Definition

#### 12.9.11.2 Conformance requirement

When the UE in GMM-SERVICE-REQUEST-INITIATED state receives a DETACH REQUEST message from the network, UE shall:

- perform the PS detach procedure.
- abort Service request procedure.

#### Reference

TS 24.008 clauses 4.7.13.5

#### 12.9.11.3 Test purpose

To test the behaviour of the UE in case of collision between Service request procedure and PS detach procedure.

#### 12.9.11.4 Method of test

#### Initial condition

System Simulator:

One cell operating in network operation mode II.

#### User Equipment:

The UE has a valid P-TMSI-1, P-TMSI-1 signature and RAI-1.

#### Related ICS/IXIT statements

Support of PS service Yes/No

UE operation mode A Yes/No UE operation mode C Yes/No

Switch off on button Yes/No

#### Test procedure

- a) The UE sends a SERVICE REQUEST message to the SS in order to establish the PS signalling connection for the upper layer signalling.
- b) The SS sends a DETACH REQUEST message to the UE, before the security procedure is not started.
- c) After the UE receives the DETACH REQUEST message, the UE aborts the Service request procedure.

#### **Expected Sequence**

Step	Direction	Message	Comments		
-	UE SS	1 -			
	•		The following message are sent and shall be		
			received on cell A.		
1	UE		The UE is set in UE operation mode C (see		
			ICS).		
2	SS		The SS is set in network operation mode II and		
			activates cell A.		
3	UE		The UE is powered up or switched on and		
			initiates an attach (see ICS). Cell A is preferred		
			by the UE.		
4	->	ATTACH REQUEST	Attach type = 'PS attach'		
			Mobile identity = P-TMSI-1		
			P-TMSI-1 signature		
			Routing area identity = RAI-1		
5	<-	ATTACH ACCEPT	No new mobile identity assigned.		
			P-TMSI and P-TMSI signature not included.		
			Routing area identity = RAI-1		
			Attach result = 'PS only attached'		
<del>6</del>	→	ATTACH COMPLETE			
7	UE		The UE initiates an upper-layer signalling, e.g.,		
			Active PDP Context request, by MMI or by AT		
			command.		
8	->	SERVICE REQUEST	Service type = "signalling"		
9	SS		The SS does not respond to SERVICE		
10		DETAOL DEOLIEOT	REQUEST message.		
10	<-	DETACH REQUEST	GMM cause = "reattach request"		
11	->	ATTACH REQUEST	Attach type = 'PS attach'		
			Mobile identity = $P-IMSI-1$		
			P-IMSI-1 signature		
40			Routing area identity = RAI-1		
12	<-	ATTACH ACCEPT	No new mobile identity assigned.		
			P-TMST and P-TMST signature not included.		
			Routing area identity = KAI-1 Attach result = ' $PS$ only attached'		
10			Allach result = PS only allached		
14	->		The LIE is switched off or power is remained		
14	UE				
15			(See 100). Massage not cont if power is removed		
15	->	DETACH REQUEST	Detach type - 'newer switched off BS detach'		
			Detach type = power switched off, PS detach		

#### Specific message contents

None.

#### 12.9.11.5 Test requirements

At step4, when the UE is powered on or switched on, UE shall:

- initiate the PS attach procedure with information elements specified in the above Expected Sequence.

At step11, when the UE receives a DETACH REQUEST message from the network before the Service request procedure completes, UE shall;

- abort the Service request procedure.
- perform the PS detach procedure.

# 3GPP TSG-T1 Meeting #14 Sophia Antipolis, France, 21-22 February 2002

# 3GPP TSG-T1/SIG Meeting #21 Sophia Antipolis, France, 18-20 February 2002

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Reason for change: ೫	CPICH_Ec shall be used as quality measure instead of CPICH_Ec/lo					
	Incorrect values in table 6.2 for MNC2 and MNC3.					
Summary of change: ₩	It has been decided by T1 not to apply loc in the SS. This makes it impossible to set CPICH_Ec/lo to the desired values in the test cases. It is therefore decided to use CPICH_RSCP instead as UE quality measure for cell reselection, i.e. UE Cell_selection_and_reselection_quality_measure is set to CPICH RSCP.					
	CPICH_Ec is specified in the test cases below instead of CPICH_RSCP as RSCP is a receiver measurement and only CPICH_Ec can be directly controlled by the SS.					
	Table 6.2: values for MNC2 and MNC3 corrected to be aligned with ASN.1 definition.					
	It will not be preside to implement the test space in the CO if ODIOLL Falls is					
Consequences if 既 not approved:	It will not be possible to implement the test cases in the SS if CPICH_EC/IO is used as a quality measure.					
Clauses affected: %	Clause 6					
Other energy	Other care aposition %					
other specs म affected:	Other core specifications     ж       Test specifications     0&M Specifications					
Other comments: #	Affects R99 and REL-4					

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#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked **#** contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track ch anges") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <u>ftp://www.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

# Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

# Introduction

The present document is the first part of a multi-part conformance specification valid for 3GPP Release 1999 and 3GPP Release 4. 3GPP TS 34.123-2 [11] contains a pro-forma for the Implementation Conformance Statement (ICS) and an applicability table, indicating the release from which each tescase is applicable. 3GPP TS 34.123-3 [12] contains a detailed and executable description of the test cases written in a standard testing language, TTCN, as defined in ISO/IEC 9646.

For at least a minimum set of services, the prose descriptions of test cases will have a matching detailed test case implemented in TTCN [12].

For Release 1999, the minimum set of services are defined as:

- voice calls;
- emergency calls;
- SMS (both Point-to-point and Cell broadcast);
- Circuit Switched data at up to 64 k bits/second;
- fax;

including the underlying layers to support these services.

Release 1999 will also include the areas:

- auto-calling restrictions.

The present document may contain descriptions of tests for additional services, but these tests may not have matching TTCN test cases.

The present document will not contain any tests on the USIM, or the interface between the UE and the USIM. These tests are documented elsewhere.

# 1 Scope

The present document specifies the protocol conformance testing for the 3rd Generation User Equipment (UE).

This is the first part of a multi-part test specification. The following information can be found in this part:

- the overall test structure;
- the test configurations;
- the conformance requirement and reference to the core specifications;
- the test purposes; and
- a brief description of the test procedure, the specific test requirements and short message exchange table.

The following information relevant to testing can be found in accompanying specifications:

- the default setting of the test parameters [9];
- the applicability of each test case [11].

A detailed description of the expected sequence of messages can be found in the 3rd part of this test specification.

The Implementation Conformance Statement (ICS) pro-forma can be found in the 2nd part of the present document.

The present document is valid for UE implemented according to 3GPP Release 1999 or 3GPP Release 4.

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.
  - For a Release 1999 UE, references to 3GPP documents are to version 3.x.y, when available.
  - For a Release 4 UE, references to 3GPP documents are to version 4.x.y, when available.
- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.003: "Numbering, Addressing and Identification".
- [3] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".
- [4] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".
- [5] 3GPP TS 25.214: "Physical layer procedures (FDD)".
- [6] 3GPP TS 25.321: "MAC protocol specification".
- [7] 3GPP TS 25.322: "RLC protocol specification".

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[8]	3GPP TS 25.331: "RRC Protocol Specification".
[9]	3GPP TS 34.108: "Common Test Environments for User Equipment (UE) Conformance Testing".
[10]	3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".
[11]	3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
[12]	3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".
[13]	3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification ".
[14]	ISO/IEC 9646 (all parts): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework".
[15]	3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".
[16]	3GPP TS 34.121: "Terminal Conformance Specification; Radio Transmission and Reception (FDD)".
[17]	3GPP TS 34.122: "Terminal Conformance Specification; Radio Transmission and Reception (TDD)".
[18]	3GPP TS 31.102: "Characteristics of the USIM Application".
[19]	3GPP TS 25.224: "Physical Layer Procedures (TDD)".
[20]	3GPP TS 25.215: "Physical layer - Measurements (FDD)".
[21]	3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)".
[22]	3GPP TS 25.123: "Requirements for support of radio resource management (TDD)".
[23]	3GPP TS 25.133: "Requirements for Support of Radio Resource Management (FDD)".
[24]	3GPP TS 03.22: "Functions related to Mobile Station (MS) in idle mode and group receive mode".
[25]	3GPP TS 04.18: "Mobile radio interface layer 3 specification; Radio Resource Control Protocol".
[26]	3GPP TS 05.08: "Radio Subsystem Link Control".
[27]	3GPP TS 22.001: "Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN)".
[28]	3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".
[29]	3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
[30]	3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) Specification".
[31]	3GPP TS 33.102: "3G Security; Security Architecture".
[32]	3GPP TS 23.060: "General Packet Radio Service (GPRS) Service description; Stage 2".
[33]	Void.
[34]	3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".
[35]	3GPP TS 23.038: "Alphabets and language-specific information".
[36]	3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio

interface".

- [37] 3GPP TS 25.324: "Broadcast/Multicast Control BMC".
- [38] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".
- [39] RFC 2507: "IP Header Compression".

# 3 Definitions and abbreviations

# 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 apply, unless specified below:

example: text used to clarify abstract rules by applying them literally

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations specified in TR 25.905 apply, with any additional abbreviations specified below:

SS System Simulator

# 4 Overview

# 4.1 Test Methodology

### 4.1.1 Testing of optional functions and procedures

Any function or procedure which is optional, as indicated in the present document, may be subject to a conformance test if it is implemented in the UE.

A declaration by the apparatus supplier (ICS) is used to determine whether an optional function/procedure has been implemented.

## 4.1.2 Test interfaces and facilities

Detailed descriptions of the UE test interfaces and special facilities for testing are provided in [10].

# 4.2 Implicit Testing

For some 3GPP signalling and protocol features conformance is not verified explicitly in the present document. This does not imply that correct functioning of these features is not essential, but that these are implicitly tested to a sufficient degree in other tests.

# 5 Reference Conditions

The reference environments used by all signalling and protocol tests are specified in TS 34.108. Where a test requires an environment that is different, this will be specified in the test itself.

# 5.1 Generic setup procedures

A set of basic generic procedures for radio resource signalling, and generic setup procedures for layer 3 NAS signalling are described in TS 34.108 clause 7. These procedures are used in numerous test cases throughout the present document.

# 6 Idle mode operations

In the following paragraphs some explanatory text is given concerning the nature of the tests in this clause and the general behaviour of the SS is described.

Since the conformance requirements of most of the tests in this clause cannot be tested explicitly, testing is done implicitly by testing the UE behaviour from its responses to the SS.

In some cases, a test is performed in multiple stages in order that the requirements can be tested within the above constraints.

For any UE all the carriers are in its supported band(s) of operation.

Unless otherwise stated in the method of test, in all of the tests of this clause:

- the default values of the system information data fields given in TS 34.108 are used;
- the UE is equipped with a USIM containing default values. The USIM is in the idle updated state in the default location area with a TMSI assigned at the beginning of each test;
- the cells shall be configured such that Squal>0 (FDD only) and Srxlev>0 while applying Qqualmin (FDD only) and Qrxlevmin in table 6.1. In addition, for an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm (definition of High Quality cell, see TS 25.304, clause 5.1.2.2). In addition, for a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to -84 dBm (definition of High Quality cell, see TS 25.304, clause 5.1.2.2).

Three different methods A, B and C are applied in the tests:

#### Method A:

- the SS is continuously paging the UE on all cells at the start of the test and does not respond to RACH requests from the UE (which causes a cell reselection). Where a test specifies that the UE is not paged on a particular cell, only idle paging is transmitted. This method is similar to the one used in TS 51.010-1, clause 20.

#### Method B:

 the SS is continuously paging the UE on all cells at the start of the test and responds to RACH requests from the UE with an IMMEDIATE ASSIGNMENT REJECT (GERAN cell) or RRC CONNECTION REJECT (UTRAN cell) message which causes the UE to return to Idle mode. Where a test specifies that the UE is not paged in a particular cell, only idle paging is transmitted.

#### Method C:

- no continuously paging as in method A or B. Normal response to RACH requests so Location Updating and Calls can be done.

Parameter	Setting
IMSI attach/detach	Method A, B: Not allowed
	Method C: Allowed
Intra-frequency cell re-selection	Allowed
indicator	
Cell_selection_and_reselection_qu	CPICH <u>RSCP</u> E,/No (FDD)
ality_measure	
Qqualmin (FDD only)	<del>-20<u>-24</u> dB</del>
Qrxlevmin (FDD)	-115 dBm
Qrxlevmin (TDD)	-103 dBm
DRX cycle length	1,28 s

#### Table 6.1: Default values of the system information fields

<u>CPICH_Ec/Io and SCH_Ec/Io shall fulfil requirements in TS 25.133, 8.1.2.2.1: The UE is able to identify a new</u> detectable cell belonging to the monitored set within  $T_{identify intra}$  when CPICH Ec/Io > -20 dB and SCH_Ec/Io > -20 dB.

It is a UE option whether to indicate access technologies to the user (TS 23.122, clause 4.4.3.1.2). Therefore, for combined UTRAN/GSM tests, it is indicated in parentheses which access technology shall be indicated to the user if the UE has this capability.

If a parameter is indicated with a *, it means that the parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The PLMN numbers indicated in table 6.2 are used in test cases to associate a cell with an MCC and MNC for that cell. If no PLMN is explicitly specified, the default value is PLMN 1.

PLMN	MCC1	MCC2	MCC3	MNC1	MNC2	MNC3	LAC
1	0	0	1	0	1	Not present <mark></mark>	х
2	0	0	2	1	<u>1</u> F	<u>Not present</u> ₽	х
3	0	0	4	2	<u>1</u> F	Not present	х
4	0	0	5	3	<u>1</u> F	<u>Not present</u> ₽	х
5	0	0	6	4	<u>1</u> F	Not present	х
6	0	0	7	5	<u>1</u> F	Not present	х
7	0	0	8	6	<u>1</u> F	<u>Not present</u> ₽	х
8	0	0	9	7	<u>1</u> F	Not present	х
9	0	1	0	0	<u>2</u> ₽	<u>Not present</u> ₽	х
10	0	1	1	1	<u>2</u> ₽	<u>Not present</u> ₽	х
11	0	1	2	2	<u>2</u> ₽	Not present	х
12	0	1	3	3	<u>2</u> ₽	<u>Not present</u> ₽	х
NOTE: 'x	' denotes a	ny value.					

# Table 6.2: Location Area Information (LAI) in System Information type 3 messages broadcast on the BCCH

References: TS 23.122, annex A and TS 23.003, clause 2.

The test channel numbers indicated in tables 6.3, 6.4 and 6.5 are used in test cases to associate a cell with a frequency for that cell. The frequencies for GSM and DCS cells in table 6.5 are identical to those used in TS 51.010-1, clause 26.3.1. The RF signal levels for GSM cells are given in table 6.5 for UTRAN FDD cells in TS 34.108, table 6.1.1 and for UTRAN TDD cells in TS 34.108, table 6.1.5. If no channel is explicitly specified, the default value is Test Channel 1.

			ITU region 2			
Test	CPICH_RSCP	UARFCN	CPICH_ <mark>RSCP</mark> E	UARFCN		
Channel	<u>Ec</u>		<u>c</u>			
	dBm <u> / 3.84</u>		dBm <u> / 3.84</u>			
	MHz		MHz			
1	-72	9 613	-72	9 263		
2	-75	9 663	-75	9 313		
3	-78	9 713	-78	9 363		
4	-81	9 763	-81	9 413		
5	-84	9 813	-84	9 463		
6	-87	9 863	-87	9 513		

### Table 6.3: UTRA (FDD) test frequencies

References: TS 34.108, clause 5.1.1 and TS 34.121, clause 4.

Table 6.4:	UTRA	TDD te	st freque	ncies
------------	------	--------	-----------	-------

			ITU re	gion 2
Test Channel	P-CCPCH_ RSCP [dBm]	UARFCN	P-CCPCH_ RSCP [dBm]	UARFCN
1	-61	9 513	-61	9 263
2	-64	9 550	-64	9 537
3	-67	9 587	-67	9 663
4	-70	10 063	-70	9 937
5	-73	10 087	-73	9 563
6	-76	10 112	-76	9 637

References: TS 34.108, clause 5.1.2 and TS 34.122, clause 4.

	GSM 900		DCS 1 800	
Test	level	BCCH ARFCN	level	BCCH ARFCN
Channel	dBµVemf()		dBµVemf()	
	/ ubili			
1	+65 / -48	1	+65 / -48	520
2	+63 / -50	7	+63 / -50	580
3	+61 / -52	39	+61 / -52	610
4	+55 / -58	65	+55 / -58	702
5	+59 / -54	66	+59 / -54	703
6	+57 / -56	85	+57 / -56	830
7	+55 / -58	97	+55 / -58	885
8	+53 / -60	124		

	GSM 450		DC	S 480
Test Channel	level dBμVemf( ) / dBm	BCCH ARFCN	level dBµVemf( ) / dBm	BCCH ARFCN
1	+65 / -48	259	+65 / -48	306
2	+63 / -50	261	+63 / -50	308
3	+61 / -52	267	+61 / -52	314
4	+55 / -58	268	+55 / -58	315
5	+59 / -54	281	+59 / -54	328
6	+57 / -56	288	+57 / -56	335
7	+55 / -58	291	+55 / -58	338
8	+53 / -60	293	+53 / -60	340

-						
	Multiband 900/1800		PC	S 1900		
Test	level	BCCH ARFCN	level	BCCH ARFCN		
Channel	dBuVemf()		dBmVemf()			
	/ dBm		/ dBm			
1	+65 / -48	520	+65 / -48	512		
2	+63 / -50	7	+63 / -50	520		
3	+61 / -52	39	+61 / -52	580		
4	+55 / -58	702	+55 / -58	610		
5	+59 / -54	66	+59 / -54	702		
6	+57 / -56	85	+57 / -56	703		
7	+55 / -58	885	+55 / -58	800		
8	+53 / -60	124				

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	Multiba	and 450/900	Multiband 480/900		
Test	level	BCCH ARFCN	level	BCCH ARFCN	
Channel	dBµVemf( )		dBµVemf( )		
	/ dBm		/ dBm		
1	+65 / -48	1	+65 / -48	1	
2	+63 / -50	261	+63 / -50	308	
3	+61 / -52	267	+61 / -52	314	
4	+55 / -58	65	+55 / -58	65	
5	+59 / -54	281	+59 / -54	328	
6	+57 / -56	288	+57 / -56	335	
7	+55 / -58	124	+55 / -58	124	
8	+53 / -60	293	+53 / -60	340	

	Multiband 450/1800		Multibar	nd 480/1800
Test	level	BCCH ARFCN	level	BCCH ARFCN
Channel	dBµVemf( )		dBµVemf( )	
	/ dBm		/ dBm	
1	+65 / -48	520	+65 / -48	520
2	+63 / -50	261	+63 / -50	308
3	+61 / -52	267	+61 / -52	314
4	+55 / -58	702	+55 / -58	702
5	+59 / -54	281	+59 / -54	328
6	+57 / -56	288	+57 / -56	335
7	+55 / -58	885	+55 / -58	885
8	+53 / -60	293	+53 / -60	340

For testing an E-GSM Mobile station, the BCCH ARFCN of GSM Test Channel 7 at GSM 900 column shall be 985 (instead of 97). For testing an R-GSM Mobile station, the BCCH ARFCN of GSM Test Channel 7 at GSM 900 column shall be 965 (instead of 97).

# 6.1 In a pure 3GPP environment

### 6.1.1 PLMN selection and reselection

#### 6.1.1.1 PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Manual mode

#### 6.1.1.1.1 Definition

Test to verify that the UE can present the available PLMNs in priority order to the user when asked to do so in manual mode and that the displayed PLMNs can be selected / reselected by the user. Forbidden PLMNs shall also by displayed in the list. If available, the RPLMN shall be selected at switch-on, otherwise the displayed list shall include in priority order HPLMN, User-PLMN and Operator-PLMN. The last priority in the list is "Other PLMN/access technology combinations" which is not included in this test.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

#### 6.1.1.1.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

- 2.1 HPLMN;
- 2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden PLMNs" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

#### References

- 1. TS 23.122, clause 4.4.3.1;
- 2. TS 23.122, clause 4.4.3.1.2;
- 3. TS 23.122, clause 3.1.

NOTE: TS 31.102 defines the USIM fields.

#### 6.1.1.1.3 Test purpose

- 1. To verify that if available, the RPLMN is selected at switch-on.
- 2. To verify that in Manual Network Selection Mode Procedure, the UE presents the HPLMN, UPLMN and OPLMN in a prioritized order.

3. To verify that forbidden PLMNs are also displayed in the list.

6.1.1.1.4 Method of test

#### Initial conditions

The UE is in manual PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP. Cell levels are from table 6.3. (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ RSCPEc [dBm <u>/3.84 MHz]</u> (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-72	-61	1	PLMN 1
Cell 2	-75	-64	2	PLMN 2
Cell 3	-78	-67	3	PLMN 3
Cell 4	-81	-70	4	PLMN 4
Cell 5	-84	-73	5	PLMN 5
Cell 6	-87	-76	6	PLMN 6

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority PLMN		
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	
EFPLMNWACT	1 st	PLMN 3	
	2 nd	PLMN 4	
EFOPLMNWACT	1 st	PLMN 5	
	2 nd	PLMN 6	
EFFPLMN	PLMN 3		

Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) Cell 1 is switched off.
- e) PLMN 4 shall be selected when the PLMN list is presented.
- f) The SS waits for random access requests from the UE.
- g) Cell 4 is switched off.
- h) PLMN 3 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.
- i) PLMN 5 shall be selected (the list is already available).
- j) The SS waits for random access requests from the UE.
- k) Cell 5 is switched off.
- 1) PLMN 2 shall be selected when the PLMN list is presented.
- m) The SS waits for random access requests from the UE.
- n) Cell 2 is switched off.

- o) PLMN 6 shall be selected when the PLMN list is presented.
- p) The SS waits for random access requests from the UE.
- q) Cell 6 is switched off.

#### 6.1.1.1.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 1.
- 2) In step e), the list shall be presented. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 4, PLMN 5, PLMN 6.
- 3) In step f), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 4.
- 4) In step h), the list shall be presented. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 5, PLMN 6. After PLMN 3 has been selected, the list shall appear again as the UE cannot perform registration.
- 6) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN 5.
- 7) In step l), the list shall be presented. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 6.
- 8) In step m), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 2.
- 9) In step o), the list shall be presented. The priority shall be as follows: PLMN 3, PLMN 6.
- 10)In step p), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 6.
- 11) After step q), the UE shall inform that only limited service is possible.

# 6.1.1.2 PLMN selection of "Other PLMN / access technology combinations"; Manual mode

#### 6.1.1.2.1 Definition

Test to verify that the UE can present the available PLMNs in priority order to the user when asked to do so in manual mode and that the displayed PLMNs can be selected / reselected by the user. Forbidden PLMNs shall also by displayed in the list. In this test are only considered "Other PLMN/access technology combinations" in the priority list.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

#### 6.1.1.2.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

2.1 HPLMN;

- 2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

In 2.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

- 3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden PLMNs" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".
- 4. The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:
  - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.
  - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to -84 dBm.

Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

#### References

- 1. TS 23.122, clause 4.4.3.1.
- 2. TS 23.122, clause 4.4.3.1.2.
- 3. TS 23.122, clause 3.1.
- 4. TS 25.304, clause 5.1.2.2.
- NOTE: TS 31.102 defines the USIM fields.

#### 6.1.1.2.3 Test purpose

- 1. To verify that in Manual Network Selection Mode Procedure, the UE presents "Other PLMN/access technology combinations" in a prioritized order according to conformance requirement 2.4 and 2.5.
- 2. To verify that forbidden PLMNs are also displayed in the list.

#### 6.1.1.2.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ <del>RSCP</del> <u>Ec</u> [dBm/ <u>3.84</u> <u>MHz</u> ] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	High Quality signal	Test Channel	PLMN
Cell 1	-85	-74	Yes	1	PLMN 6
Cell 2	-80	-69	Yes	2	PLMN 7
Cell 3	-80	-69	Yes	3	PLMN 8
Cell 4	-98	-87	No	4	PLMN 9
Cell 5	-101	-90	No	5	PLMN 10
Cell 6	-104	-93	No	6	PLMN 11

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	
EFPLMNWACT	1 st	PLMN 3	
	2 nd	PLMN 4	
EFOPLMNWACT	1 st	PLMN 5	
	2 nd	PLMN 6	
EFFPLMN	PLMN 10		

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) PLMN 9 shall be selected when the PLMN list is presented.
- d) The SS waits for random access requests from the UE.
- e) Cell 4 is switched off.
- f) PLMN 7 shall be selected when the PLMN list is presented.
- g) The SS waits for random access requests from the UE.
- h) Cell 2 is switched off.
- i) PLMN 6 shall be selected when the PLMN list is presented.
- j) The SS waits for random access requests from the UE.
- k) Cell 1 is switched off.
- 1) PLMN 11 shall be selected when the PLMN list is presented.
- m) The SS waits for random access requests from the UE.
- n) Cell 6 is switched off.

- o) PLMN 10 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.
- p) Cell 5 is switched off.
- q) PLMN 8 shall be selected (the list is already available)
- r) The SS waits for random access requests from the UE.
- s) Cell 3 is switched off.

#### 6.1.1.2.5 Test Requirements

- 1) In step c), the list shall be presented. The priority shall be as follows: PLMN 6 followed by PLMN 7, PLMN 8 in random order, followed by PLMN 9, PLMN 10, PLMN 11.
- 2) In step d), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 9.
- 3) In step f), the list shall be presented. The priority shall be as follows: PLMN 6 followed by PLMN 7, PLMN 8 in random order, followed by PLMN 10, PLMN 11.
- 4) In step g), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 7.
- 5) In step i), the list shall be presented. The priority shall be as follows: PLMN 6, PLMN 8, PLMN 10, PLMN 11.
- 6) In step j), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 6.
- 7) In step l), the list shall be presented. The priority shall be as follows: PLMN 8, PLMN 10, PLMN 11.
- 8) In step m), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 11.
- 9) In step 0), the list shall be presented. The priority shall be as follows: PLMN 8, PLMN 10. After PLMN 10 has been selected, the list shall appear again as the UE cannot perform registration.
- 10)In step q), the list shall be presented and shall only contain PLMN 8.
- 11)In step r), the UE shall respond on Cell 3. The displayed PLMN shall be PLMN 8.
- 12) After step s), the UE shall inform that no network is available.

# 6.1.1.3 PLMN selection; independence of RF level and preferred PLMN; Manual mode

#### 6.1.1.3.1 Definition

Test to verify that in Manual Network Selection Mode, the UE is able to obtain normal service on a PLMN which is neither the better nor a preferred PLMN and that it tries to obtain service on a VPLMN if and only if the user selects it manually.

#### 6.1.1.3.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

2.1 HPLMN;

- 2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

#### References

- 1. TS 23.122, clause 4.4.3.1.
- 2. TS 23.122, clause 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields.

#### 6.1.1.3.3 Test purpose

- 1. To verify that the selected PLMN at switch-on is the HPLMN.
- 2. To verify that in Manual Network Selection Mode Procedure the UE tries to obtain service on a VPLMN if and only if the user selects it manually.
- 3. To verify that the UE is able to obtain normal service on a PLMN which is neither the better nor a prefered PLMN.

#### 6.1.1.3.4 Method of investigation

Initial conditions

The UE is in manual PLMN selection mode.

"IMSI attach" flag in the BCCH is set to allowed.

For FDD only:

#### **Release 4**

#### Step a-d:

	Parameter	Unit	Cell 1	Cell 2	Cell 3
	Test Channel		1	2	3
	CPICH_Ec <mark>/ło</mark>	dB <u>m/3.8</u> <u>4 MHz</u>	<del>-12</del> -60	<del>-15</del> -70	OFF
	<b>Qqualmin</b>	dB	<del>-20</del>	<del>-20</del>	<del>-20</del>
	<del>Squal*</del>	dB	8	5	-
	PLMN		1	2	3
Step e-f:					
	CPICH_Ec <mark>/łe</mark>	<u>dBm/3.8</u> <u>4 MHz</u>	<del>-12<u>-60</u> -&gt;</del> OFF	<del>-15<u>-70</u></del>	OFF
Step g-h:					
	CPICH_Ec <mark>/ło</mark>	<u>dBm/3.8</u> <u>4 MHz</u>	OFF	<del>-15</del> -70	OFF -> <del>-12</del> - <u>60</u>
Step i-1:					
	CPICH_Ec <mark>/lo</mark>	<u>dBm/3.8</u> <u>4 MHz</u>	OFF	<mark>-15</mark> -70 -> OFF	<del>-12<u>-60</u></del>
For TDD only:					
Sup a-u.	Parameter	Unit	Coll 1	Coll 2	
				2	
		dBm	60	∠ 72	
Step a-d:	Parameter Test Channel P-CCPCH RSCP	Unit dBm	<b>Cell 1</b> 1 -69	<b>Cell 2</b> 2 -72	Cell 3 3 OFF

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The UE is equipped with a USIM containing default values except for those listed below.

dBm

dB

Qrxlevmin

Srxlev*

PLMN

P-CCPCH RSCP

P-CCPCH RSCP

P-CCPCH RSCP

USIM field	Priority	PLMN
EFLOCI		
EFHPLMNWACT	1 st	PLMN 1
	1 st	PLMN 3

-103

34

1

-69 -> OFF

OFF

OFF

-103

31

2

-72

-72

-72 -> OFF

-103

3

OFF

OFF -> -69

-69

Test procedure

Step e-f:

Step g-h:

Step i-l:

Method C is applied.

- a) The SS activates cells 1 and 2.
- b) The UE is switched on.
- c) PLMN 1 is selected manually.
- d) The SS waits for random access requests from the UE. A complete Location Update is done.
- e) Cell 1 is switched off.
- f) The SS waits to see if there is any random access request from the UE.
- g) Cell 3 is switched on.

- h) The SS waits to see if there is any random access request from the UE.
- i) PLMN 2 is selected manually.
- j) The SS waits for random access requests from the UE. A complete Location Update is done.
- k) Cell 2 is switched off.
- 1) The SS waits to see if there is any random access request from the UE.

#### 6.1.1.3.5 Test Requirements

- 1) In step d), there shall be a response on Cell 1. The selected PLMN shall be PLMN 1.
- 2) In step f), there shall be no response from the UE within 2 min.
- 3) In step h), there shall be no response from the UE within 2 min.
- 4) In step j), there shall be a response on Cell 2. The selected PLMN shall be PLMN 2.
- 5) In step l), there shall be no response from the UE within 2 min.

#### 6.1.1.4 PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Automatic mode

#### 6.1.1.4.1 Definition

Test to verify that in Automatic Network Selection Mode, the UE selects PLMNs in a prioritized order. Forbidden PLMNs shall not be selected. If available, the RPLMN shall be selected at switch-on, otherwise the list shall include in priority order HPLMN, User-PLMN and Operator-PLMN. The last priority in the list is "Other PLMN/access technology combinations" which is not included in this test.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

#### 6.1.1.4.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

- 2.1 HPLMN (if not previously selected);
- 2.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden PLMNs" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

#### References

- 1. TS 23.122, clause 4.4.3.1.
- 2. TS 23.122, clause 4.4.3.1.1.
- 3. TS 23.122, clause 3.1.

NOTE: TS 31.102 defines the USIM fields.

#### 6.1.1.4.3 Test purpose

- 1. To verify that if available, the RPLMN is selected at switch-on.
- 2. To verify that in Automatic Network Selection Mode Procedure, the UE selects the RPLMN, HPLMN, UPLMN and OPLMN in a prioritized order.
- 3. To verify that forbidden PLMNs are not selected.

#### 6.1.1.4.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP. Cell levels are from table 6.3 (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ RSCPEc [dBm/ <u>3.84</u> <u>MHz]</u> (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-72	-61	1	PLMN 1
Cell 2	-75	-64	2	PLMN 2
Cell 3	-78	-67	3	PLMN 3
Cell 4	-81	-70	4	PLMN 4
Cell 5	-84	-73	5	PLMN 5
Cell 6	-87	-76	6	PLMN 6

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EFLOCI		PLMN 1
EFHPLMNWACT	1 st	PLMN 2
EFPLMNwAcT	1 st	PLMN 3
	2 nd	PLMN 4
EFOPLMNWACT	1 st	PLMN 5
	2 nd	PLMN 6
EF _{FPLMN}	PLI	MN 3

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) Cell 1 is switched off.
- e) The SS waits for random access requests from the UE.
- f) Cell 2 is switched off.
- g) The SS waits for random access requests from the UE.
- i) Cell 4 is switched off.
- j) The SS waits for random access requests from the UE.
- k) Cell 5 is switched off.
- 1) The SS waits for random access requests from the UE.
- m) Cell 6 is switched off.

#### 6.1.1.4.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 1.
- 2) In step e), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 2.
- 3) In step g), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 4.
- 4) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN 5.
- 5) In step 1), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 6.
- 6) After step m), the UE shall inform that only limited service is possible

### 6.1.1.5 PLMN selection of "Other PLMN / access technology combinations"; Automatic mode

#### 6.1.1.5.1 Definition

Test to verify that in Automatic Network Selection Mode, the UE selects PLMNs in a prioritized order. Forbidden PLMNs shall not be selected. In this test are only considered "Other PLMN/access technology combinations" in the priority list.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

#### 6.1.1.5.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

- 2.1 HPLMN (if not previously selected);
- 2.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 2.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

In 2.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

- 3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden PLMNs" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".
- 4. The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:
  - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.
  - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to -84 dBm.

Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

#### References

- 1. TS 23.122, clause 4.4.3.1.
- 2. TS 23.122, clause 4.4.3.1.1.

- 3. TS 23.122, clause 3.1.
- 4. TS 25.304, clause 5.1.2.2.
- NOTE: TS 31.102 defines the USIM fields.

#### 6.1.1.5.3 Test purpose

- 1. To verify that in Automatic Network Selection Mode Procedure, the UE selects "Other PLMN/access technology combinations" in a prioritized order according to conformance requirement 2.4 and 2.5.
- 2. To verify that forbidden PLMNs are not selected.

#### 6.1.1.5.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ <del>RSCP</del> <u>Ec</u> [dBm <u>/3.84</u> <u>MHz</u> ] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	High Quality signal	Test Channel	PLMN
Cell 1	-85	-74	Yes	1	PLMN 6
Cell 2	-80	-69	Yes	2	PLMN 7
Cell 3	-80	-69	Yes	3	PLMN 8
Cell 4	-98	-87	No	4	PLMN 9
Cell 5	-101	-90	No	5	PLMN 10
Cell 6	-104	-93	No	6	PLMN 11

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	
EFPLMNwAcT	1 st	PLMN 3	
	2 nd	PLMN 4	
EFOPLMNWACT	1 st	PLMN 5	
	2 nd	PLMN 6	
EFFPLMN	PLMN 10		

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) Cell 1 is switched off.
- e) The SS waits for random access requests from the UE.
- f) The cell associated to the currently shown PLMN shall be switched off.
- g) The SS waits for random access requests from the UE.
- h) The cell associated to the currently shown PLMN shall be switched off.

- i) The SS waits for random access requests from the UE.
- j) Cell 4 is switched off.
- k) The SS waits for random access requests from the UE.
- 1) Cell 6 is switched off.

#### 6.1.1.5.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 6.
- 2) In step e), the response from the UE shall be on either Cell 2 or 3. The displayed PLMN shall be the one associated with the cell on which the response was received.
- 3) In step g), the response from the UE shall be on either Cell 2 or 3 (excluding the cell in step 2). The displayed PLMN shall be the one associated with the cell on which the response was received.
- 4) In step i), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 9.
- 5) In step k), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 11.
- 6) After step 1), the UE shall inform that only limited service is possible.

### 6.1.1.6 UE will transmit only if PLMN available

#### 6.1.1.6.1 Definition

Test to verify that the UE will not generate any RF output if no PLMN is available.

#### 6.1.1.6.2 Conformance requirement

[FFS: Currently no requirements exist in core specs.]

#### 6.1.1.6.3 Test purpose

- 1. To verify that the UE does not give any "Service indication" when no PLMN is available.
- 2. To verify that the UE will not generate any RF output when no PLMN is available.

#### 6.1.1.6.4 Method of test

Initial conditions

For FDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec <mark>/le</mark>	dB <u>m/</u> <u>3.84</u> <u>MHz</u>	<del>-13<u>-60</u></del>	<del>-15</del> -65	<del>-17<u>-70</u></del>
<b>Qqualmin</b>	₿	<del>-20</del>	<del>-20</del>	<del>-20</del>
<del>Squal*</del>	d₿	7	5	3

For TDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-71	-73
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	32	30

#### **Release 4**

#### Test procedure

Method C is applied.

- a) The SS activates the cells 1-3 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access request from the UE.
- d) Cells 1-3 are switched off.
- e) The SS shall wait 20 s to allow the UE to detect the loss of cells.
- f) By MMI, an attempt to originate a call is made.
- g) By MMI, an attempt to originate an emergency call is made (only if UE supports speech).

#### 6.1.1.6.5 Test Requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step f) and g), the UE shall not produce any RF output, neither give any "service indication" within 2 min.

### 6.1.2 Cell selection and reselection

#### 6.1.2.1 Cell reselection

#### 6.1.2.1.1 Definition

Test to verify that the UE performs the cell reselection correctly for intra/inter-frequency cells if the serving cell becomes barred or S<0.

#### 6.1.2.1.2 Conformance requirement

- 1. When camped on a cell, the UE shall regularly search for a better cell according to the cell reselection criteria. If a better cell is found, that cell is selected. The change of cell may imply a change of RAT.
- 2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.
  - 2.1 The cell is part of the selected PLMN or of a PLMN considered as equivalent by the UE according to the information provided by the NAS.
  - 2.2 The cell is not barred.
  - 2.3 The cell is not part of the list of "forbidden LAs for roaming".
  - 2.4 The cell selection criteria are fulfilled.
- 3. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 3.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.
  - 3.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 4. Cell Reselection Criteria:
  - 4.1 The UE shall perform ranking of all cells that fulfil the S criterion.
  - 4.2 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.

- 4.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.
- 4.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSET_n and PENALTY_TIME_n are only applicable if the usage of HCS is indicated in system information.
- 5. When cell status "barred" is indicated, the UE shall select another cell according to the following rule:
  - 5.1 If the "Intra-frequency cell re-selection indicator" IE in Cell Access Restriction IE is set to value "allowed", the UE may select another cell on the same frequency if selection/re-selection criteria are fulfilled.
  - 5.2 If the "Intra-frequency cell re-selection indicator" IE is set to "not allowed" the UE shall not re-select a cell on the same frequency as the barred cell. For emergency call, the Intra-frequency cell re-selection indicator IE" shall be ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

#### References

- 1. TS 25.304, clause 5.2.1.
- 2. TS 25.304, clause 4.3.
- 3. TS 25.304, clause 5.2.5.1.
- 4. TS 25.304, clause 5.2.6.1.4.
- 5. TS 25.304, clause 5.3.1.1.

#### 6.1.2.1.3 Test purpose

- 1. To verify that the UE performs cell reselection on the following occasions:
  - 1.1 Serving cell becomes barred;
  - 1.2 S<0 for serving cell.
- 2. To verify conformance requirement 5.
- NOTE: Reselection triggered by the cell becoming a part of a forbidden registration area is tested in clause 9.4.2.3 and clause 9.4.2.4.

#### 6.1.2.1.4 Method of test

#### Initial conditions

Treselection, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME are not used, so the cell-ranking criterion R equals CPICH_<u>RSCPEc/Io</u> for FDD cells, and P-CCPCH RSCP for TDD cells.

Step a-c (FDD):

Parameter	Unit	Cell 1	Cell 2	Cell 3
Test Channel		1	1	2
CPICH_Ec <mark>/ło</mark>	dB <u>m/3.84</u> <u>MHz</u>	<del>-13<u>-60</u></del>	<del>-15<u>-70</u></del>	<del>-17<u>-80</u></del>
QqualminQrxlevm in	dB <u>m</u>	<del>-20<u>-115</u></del>	<del>-20<u>-115</u></del>	<del>-20<u>-115</u></del>
SqualSrxlev*	dB <u>m</u>	<mark>7</mark> 55	<mark>5</mark> 45	<mark>3</mark> 35
Intra-frequency cell re-selection indicator		Not Allowed	Not Allowed	Not Allowed
CellBarred		0	0	0

Step a-c (TDD):

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-71	-73
Qrxlevmin	dBm	-103	-103	-103
Srxlev*	dB	34	32	30

Step d-f:

CellBarred	d 0->1	0	0

Step g-h:

Step i (FDD):

QqualminQrxlev min	dB <u>m</u>	- <del>20 -&gt; -10_</del> 115 -> -50	<del>-20<u>-115</u></del>	<del>-20</del> -115
<mark>Squal<u>Srxlev</u>*</mark>	dB <u>m</u>	<del>7 -&gt; -3<u>55</u> -&gt;</del> <u>-10</u>	<del>5</del> <u>45</u>	<del>3</del> <u>35</u>

Step i (TDD):

Qrxlevmin	-103 -> -68	-103	-103
Srxlev*	34 -> -6	32	30

Test procedure

Method B is applied.

- a) The SS activates Cell 1-3 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The SS sets Cell 1 to be barred.
- e) The SS waits for random access requests from the UE.
- f) The SS sets "Intra-frequency cell re-selection indicator" to "Allowed".
- g) The SS waits for random access requests from the UE.
- h) The stored information cell selection list in the UE is deleted and the UE is switched off.
- Step a-e) is repeated except that in step d) for FDD cells, Qqualmin is increased to <u>10 dB</u> <u>Qrxlevmin is</u> increased to <u>-50 dBm</u>, or in step d) for TDD cells, Qrxlevmin is increased to <u>-68</u>, so S will become negative instead of the cell being barred while maintaining the same RF level.

#### 6.1.2.1.5 Test requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), the UE shall respond on Cell 3.
- 3) In step g), the UE shall respond on Cell 2.
- 4) In step i), the UE shall respond on Cell 2.
# 6.1.2.2 Cell reselection using Qhyst, Qoffset and Treselection

## 6.1.2.2.1 Definition

Test to verify that the UE performs the cell reselection correctly if system information parameters Qoffset, Qhyst and Treselection are applied for non-hierarchical cell structures. TEMP_OFFSET and PENALTY_TIME are only applicable when HCS is applied and are tested in clauses 6.1.2.4 and 6.1.2.5.

## 6.1.2.2.2 Conformance requirement

- 1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.
  - 1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 2. Cell Reselection Criteria:
  - 2.1 The UE shall perform ranking of all cells that fulfil the S criterion.
  - 2.2 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.
  - 2.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.
  - 2.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSETn and PENALTY_TIMEn are only applicable if the usage of HCS is indicated in system information.

#### References

- 1. TS 25.304, clause 5.2.5.1.
- 2. TS 25.304, clause 5.2.6.1.4.

## 6.1.2.2.3 Test purpose

- 1. To verify that the UE calculates R from Qhyst and Qoffset and that the modification of these parameters on the BCCH triggers the cell reselection evaluation process. TEMP_OFFSET and PENALTY_TIME are not applied.
- 2. To verify that the UE reselects the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

6.1.2.2.4 Method of test

Initial conditions

For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2
CPICH_Ec <mark>/lo</mark>	dB <u>m/3.84</u> <u>MHz</u>	<del>-12</del> -60	<del>-15</del> -70
Qqualmin	dB	<del>-20</del>	<del>-20</del>
Squal*	dB	8	5
Qhyst <mark>21</mark> s	dB <u>m</u>	<del>10<u>20</u></del>	
Rs*	dB <u>m</u>	<del>-2</del> -40	
R _n *	dB <u>m</u>	<del>-15<u>-70</u></del>	

## Release 4

Step d-e:

CPICH_Ec <mark>/lo</mark>	dB <u>m/3.8</u> <u>4 MHz</u>	<del>-12 -&gt; -15<u>-60</u> _&gt; -70</del>	<del>-15 -&gt; -12<u>-70</u> _&gt; -60</del>
Rs*	dB <u>m</u>	<del>-2 -&gt; -5</del> -40 - > -50	
R _n *	dB <u>m</u>	<del>-15 -&gt; -12<u>-70</u> -&gt; -60</del>	

# Step f-g:

Qhyst <mark>21</mark> s	dB <u>m</u>	<del>10 -&gt; 0<u>20 -&gt; 0</u></del>	
Rs*	dB <u>m</u>	<del>-5 -&gt; -15<u>-50 -&gt;</u> -70</del>	
R _n *	dB <u>m</u>	<del>-12</del> -60	

# Step h-j:

CPICH_Ec/ <del>lo</del>	dB <u>m/3.8</u> <u>4 MHz</u>	<del>-12<u>-60</u></del>	<del>-15<u>-70</u></del>
Qoffset <mark>21</mark> s,n	dB <u>m</u>	<del>10<u>20</u></del>	
Rs*	dB <u>m</u>	<del>-12<u>-60</u></del>	
R _n *	dB <u>m</u>	<del>-25</del> -90	

# Step k-1:

CPICH_Ec <mark>/le</mark>	dB <u>m/3.8</u> <u>4 MHz</u>	<del>-12 -&gt; -15_</del> <u>60 -&gt; -70</u>	<del>-15 -&gt; -12<u>-70</u> -&gt; -60</del>
Rs*	dB <u>m</u>	<del>-12 -&gt; -15</del> - <u>60 -&gt; -70</u>	
R _n *	dB <u>m</u>	<del>-25 -&gt; -22</del> - <u>90 -&gt; -80</u>	

# Step m-n:

Qoffset <mark>21</mark> s,n	dB <u>m</u>	<del>10 -&gt; 0<u>20 -&gt;</u> 0</del>	
Rs*	dB <u>m</u>	<del>-15<u>-70</u></del>	
R _n *	dB <u>m</u>	<del>-22 -&gt; -12</del> - <u>80 -&gt; -60</u>	

# Step o-p:

Treselections	S	30	

# For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2
P-CCPCH RSCP	dBm	-68	-71
Qhyst1₅	dB	10	
Rs*	dB	-58	
R _n *	dB	-71	

# Step d-e:

P-CCPCH RSCP	dBm	-68 -> -71	-71 -> -68
R _s *	dB	-58 -> -61	
R _n *	dB	-71 -> -68	

# Step f-g:

Qhyst1 _s	dB	10 -> 0	
Rs*	dB	-61 -> -71	
R _n *	dB	-68	

#### **Release 4**

Step h-j:

P-CCPCH RSCP	dBm	-68	-71
Qoffset1 _{s,n}	dB	10	
Rs*	dB	-68	
R _n *	dB	-81	

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Step k-l:

P-CCPCH RSCP	dBm	-68 -> -71	-71 -> -68
Rs*	dB	-68 -> -71	
R _n *	dB	-81 -> -78	

Step m-n:

Qoffset1 _{s,n}	dB	10 -> 0	
R _s *	dB	-71	
R _n *	dB	-78 -> -68	

Step o-p:

	<b>Treselection</b> s	S	30	
--	-----------------------	---	----	--

## Test procedure

Method B is applied.

- a) The SS activates Cell 1 and 2 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits to see if there is any random access requests from the UE.
- d) The SS changes the level of Cell 1 and 2 and waits for 10 s (TS 25.133, A.4.2.1.2 for FDD mode and TS 25.123, A.4.2.1.2 for TDD mode).
- e) The SS waits for random access requests from the UE.

Γ

- f) The SS resets Qhyst for Cell 1.
- g) The SS waits for random access requests from the UE.
- h) The stored information cell selection list in the UE is deleted and the UE is switched off.
- i) The UE is switched on.
- j) The SS waits to see if there is any random access requests from the UE.
- k) The SS changes the level of Cell 1 and 2 and waits for 10 s (TS 25.133, clause A.4.2.1.2 for FDD mode and TS 25.123, clause A.4.2.1.2 for TDD mode).
- 1) The SS waits for random access requests from the UE.
- m) The SS resets Qoffset for Cell 1.
- n) The SS waits for random access requests from the UE.
- o) Step h-n) is repeated except that Treselection is 30 s

#### 6.1.2.2.5 Test Requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), the UE shall keep responding on Cell 1.
- 3) In step g), the UE shall respond on Cell 2.
- 4) In step j), the UE shall select a cell to camp on and eventually make a reselection to Cell 1.

- 5) In step 1), the UE shall keep responding on Cell 1.
- 6) In step n), the UE shall respond on Cell 2.
- In step o), the UE shall respond as in previous steps except that when reselecting to Cell 2, there shall be no response from the UE on Cell 2 within 28 s of broadcasting Qoffset but the UE shall respond on Cell 2 within 34 s.
- NOTE: Minimum time set by Treselection 2 s tolerance. Maximum time set by Treselection + 1 280 msec. for DRX cycle + 2 s tolerance

# 6.1.2.3 HCS Cell reselection

#### 6.1.2.3.1 Definition

Test to verify that the UE performs the cell reselection correctly for hierarchical cell structures. This shall be done according to the HCS priority, the received signal quality value Q and the quality level threshold criterion H.

#### 6.1.2.3.2 Conformance requirement

- 1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.
  - 1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 2. Cell Reselection Criteria for hierarchical cells:
  - 2.1 The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is calculated from the Q, Qhcs, TEMP_OFFSET and PENALTY_TIME parameters.
  - 2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells that have the highest HCS_PRIO among those cells that fulfil the criterion  $H \ge 0$ .
  - 2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.
  - 2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.
  - 2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME.

#### References

- 1. TS 25.304, clause 5.2.2.
- 2. TS 25.304, clause 5.2.6.1.4.

# 6.1.2.3.3 Test purpose

- 1. Verify that the UE ignores cells with H<0 for reselection and that H is calculated from Qhcs. The modification of this parameter on the BCCH shall trigger the cell reselection evaluation process.
- Verify that the UE ranks cells based on both HCS priority and R. Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME and Treselection are not applied so R equals CPICH_<u>Ec/loRSCP</u> for FDD cells, and P-CCPCH RSCP for TDD cells.

## 6.1.2.3.4 Method of test

## Initial conditions

# For FDD only:

# Step a-c:

	Parameter	Unit	Cell 1	Cell 2	Cell 3
	CPICH_Ec <mark>/le</mark>	dB <u>m/3.84</u> <u>MHz</u>	- <u>-13-60</u>	<del>-15</del> -65	<del>-17</del> -70
	<b>Qqualmin</b>	dB	<del>-20</del>	<del>-20</del>	<del>-20</del>
	<del>Squal*</del>	dB	7	5	3
	HCS priority		6	7	7
	Qhcs₅	dB <u>m</u>	<u>-24-80</u>	<del>-10<u>-50</u></del>	<del>-10<u>-50</u></del>
	Hs*	dB <u>m</u>	<del>11<u>20</u></del>	<del>-5<u>-15</u></del>	<del>-7<u>-20</u></del>
Step d-e:					
	Qhcs _s	dB <u>m</u>	<del>-2</del> 4 <u>-80</u>	<del>-10<u>-50</u></del>	<del>-10 -&gt; -24<u>-50</u> -&gt; -80</del>
	Hs*	dB <u>m</u>	<del>11<u>20</u></del>	<del>-5<u>-15</u></del>	<del>-7 -&gt; 7<u>-20 -&gt;</u> <u>10</u></del>
Step f-g:					
	Qhcs₅	dB <u>m</u>	<del>-24<u>-80</u></del>	<del>-10 -&gt; -2</del> 4- <u>50 -&gt; -80</u>	<del>-24<u>-80</u></del>
	Hs*	dB <u>m</u>	<del>11<u>20</u></del>	<del>-5 -&gt; 9</del> - <u>15 -&gt;</u> <u>15</u>	7 <u>10</u>
For TDD only:					
Step a-c:					
	Parameter	Unit	Cell 1	Cell 2	Cell 3
	P-CCPCH RSCP	dBm	-69	-71	-73
	HCS priority		6	7	7
	Qhcss	dB	-30	-10	-10
	H _s *	dB	-39	-61	-63
Step d-e:					
	Qhcs _s	dB	-30	-10	-10 -> -30
	H _s *	dB	-39	-61	-63 -> -43
Step f-g:					
	Qhcs _s	dB	-30	-10 -> -30	-30
	H _s *	dB	-39	-61 -> -41	-43

## Test procedure

Method B is applied.

- a) The SS activates the cells 1-3 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The SS changes Qhcs for Cell 3.
- e) The SS waits for random access requests from the UE.
- f) The SS changes Qhcs for Cell 2.
- g) The SS waits for random access requests from the UE.

#### 6.1.2.3.5 Test requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), the UE shall respond on Cell 3.
- 3) In step g), the UE shall respond on Cell 2.

# 6.1.2.4 HCS Cell reselection using reselection timing parameters for the H criterion

#### 6.1.2.4.1 Definition

Test to verify that the UE performs the cell reselection correctly for hierarchical cell structures using TEMP_OFFSET and PENALTY_TIME applied to the H criterion.

#### 6.1.2.4.2 Conformance requirement

- 1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.
  - 1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 2. Cell Reselection Criteria for hierarchical cells:
  - 2.1 The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is calculated from the Q, Qhcs, TEMP_OFFSET and PENALTY_TIME parameters.
  - 2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells that have the highest HCS_PRIO among those cells that fulfil the criterion  $H \ge 0$ .
  - 2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If an FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.
  - 2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.
  - 2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME.
- 3. TEMP_OFFSET_n applies an offset to the H criteria for the duration of PENALTY_TIME_n after the timer T_n has started for that cell. T_n shall be started from zero when  $Q_{meas,n} > Qhcs_n$ . TEMP_OFFSET is only applied to the H criteria if the cells have different HCS priorities.

#### References

- 1. TS 25.304, clause 5.2.2.
- 2,3. TS 25.304, clause 5.2.6.1.4.

# 6.1.2.4.3 Test purpose

1. Verify that TEMP_OFFSET is applied to the H criterion for a period of PENALTY_TIME and that the timer is started when  $Q_{meas,n} > Qhcs_n$  if serving and neighbour cell have different HCS priorities.

## 6.1.2.4.4 Method of test

Initial conditions

For FDD only:

# Release 4

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec <mark>4o</mark>	dB <u>m/3.84</u> <u>MHz</u>	<del>-13<u>-60</u></del>	<del>-17<u>-70</u></del>	<del>-17<u>-70</u></del>
<del>Qqualmin</del>	d₿	<del>-20</del>	<del>-20</del>	<del>-20</del>
<del>Squal*</del>	dB	7	3	3
HCS priority		2	4	7
Qhcss	dB <u>m</u>	<del>-20<u>-80</u></del>		
Qhcs _{n=2}	dB <u>m</u>	<del>-10<u>-50</u></del>		
Qhcs _{n=3}	dB <u>m</u>	<del>-10<u>-50</u></del>		
TEMP_OFFSET <mark>21</mark> n=2	dB <u>m</u>	<del>10</del> <u>30</u>		
TEMP_OFFSET <mark>21</mark> n=3	dB <u>m</u>	<del>10</del> <u>30</u>		
H _s *	dB <u>m</u>	7 <u>20</u>		
H _{n=2} *	dB <u>m</u>	<del>-7<u>-</u>20</del>		
H _{n=3} *	dB <u>m</u>	<del>-7</del> -20		
PENALTY_TIME _{n=2}	sec	40		
PENALTY_TIME _{n=3}	sec	60		

# Step d-e:

Qhcs₅	dB <u>m</u>	<del>-20</del> -80	
Qhcs _{n=2}	dB <u>m</u>	<del>-10 -&gt; -20<u>-50 -&gt;</u> -80</del>	
Qhcs _{n=3}	dB <u>m</u>	<del>-10 -&gt; -20</del> -50 -> <u>-80</u>	
H _s *	dB <u>m</u>	7 <u>20</u>	
H _{n=2} *	dB <u>m</u>	- <del>7 -&gt; 3<u>-20 -&gt; 10</u> (after 40 sec)</del>	
H _{n=3} *	dB <u>m</u>	<del>-7 -&gt; 3</del> -20 -> 10 (after 60 sec)	

# For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-73	-73
HCS priority		2	4	7
Qhcs₅	dB	-20		
Qhcs _{n=2}	dB	-10		
Qhcs _{n=3}	dB	-10		
TEMP_OFFSET2n=2	dB	10		
TEMP_OFFSET2n=3	dB	10		
H _s *	dB	-49		
H _{n=2} *	dB	-63		
H _{n=3} *	dB	-63		
PENALTY_TIME _{n=2}	sec	40		
PENALTY_TIME _{n=3}	sec	60		

# Step d-e:

Qhcs₅	dB	-20	
Qhcs _{n=2}	dB	-10 -> -20	
Qhcs _{n=3}	dB	-10 -> -20	
H _s *	dB	-49	
H _{n=2} *	dB	-63 -> -53 (after 40 sec)	
H _{n=3} *	dB	-63 -> -53 (after 60 sec)	

#### Test procedure

Method B is applied.

- a) The SS activates the cells 1-3 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The SS changes Qhcs for Cell 2 and 3.
- e) The SS waits for random access requests from the UE.

#### 6.1.2.4.5 Test requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), there shall be no response from the UE on Cell 2 within 38 s of changing the parameters but the UE shall respond on Cell 2 within 44 s. There shall be no response from the UE on Cell 3 within 58 s of changing the parameters but the UE shall respond on Cell 3 within 64 s.
- NOTE: Minimum time set by PENALTY_TIME (cell 2) 2 s tolerance. Maximum time set by PENALTY_TIME (cell 2) + 1 280 msec. for DRX cycle + 2 s tolerance. Same calculation for Cell 3.

# 6.1.2.5 HCS Cell reselection using reselection timing parameters for the R criterion

# 6.1.2.5.1 Definition

Test to verify that the UE performs the cell reselection correctly for hierarchical cell structures using TEMP_OFFSET and PENALTY_TIME applied to the R criterion.

#### 6.1.2.5.2 Conformance requirement

- 1. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 1.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and in TS 25.123 for TDD mode.
  - 1.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 2. Cell Reselection Criteria for hierarchical cells:
  - 2.1 The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is calculated from the Q, Qhcs, TEMP_OFFSET and PENALTY_TIME parameters.
  - 2.2 The UE shall perform ranking of all cells that fulfil the S criterion among all cells, not considering HCS priority levels, if no cell fulfil the criterion H>=0.
  - 2.3 The cells shall be ranked according to the R criteria. The best ranked cell is the cell with the highest R value. If a FDD cell is ranked as the best cell, the UE shall perform cell re-selection to that FDD cell. If a TDD cell is ranked as the best cell, the UE shall perform cell re-selection to that TDD cell.
  - 2.4 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.

2.5 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET, PENALTY_TIME.

3. TEMP_OFFSET_n applies an offset to the R criteria for the duration of PENALTY_TIME_n after the timer T_n has started for that cell. T_n shall be started from zero when  $Q_{meas,n} > Q_{meas,s} + Qoffset2_{s,n}$ . TEMP_OFFSET is only applied to the R criteria if the cells have identical priorities.

#### References

- 1. TS 25.304, clause 5.2.2.
- 2,3. TS 25.304, clause 5.2.6.1.4.

# 6.1.2.5.3 Test purpose

1. Verify that TEMP_OFFSET is applied to the R criterion for a period of PENALTY_TIME and that the timer is started when  $Q_{meas,n} > Q_{meas,s} + Qoffset2_{s,n}$  if serving and neighbour cell have identical HCS priorities.

6.1.2.5.4 Method of test

## Initial conditions

# For FDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec <mark>/lo</mark>	dB <u>m/3.84</u> <u>MHz</u>	<del>-15</del> -60	<del>-17<u>-70</u></del>	<del>-17<u>-70</u></del>
<b>Qqualmin</b>	d₿	<del>-20</del>	<del>-20</del>	<del>-20</del>
<del>Squal*</del>	d₿	5	3	3
HCS priority		1	1	1
TEMP_OFFSET2n=2	dB <u>m</u>	<del>10<u>20</u></del>		
TEMP_OFFSET2n=3	dB <u>m</u>	<del>10<u>20</u></del>		
PENALTY_TIME _{n=2}	sec	40		
PENALTY_TIME _{n=3}	sec	60		
H _s *	dB <u>m</u>	<del>-15</del> -60		
H _{n=2} *	dB <u>m</u>	<del>-17<u>-70</u></del>		
H _{n=3} *	dB <u>m</u>	<del>-17</del> - <u>70</u>		
R _s *	dB <u>m</u>	<del>-15</del> -60		
R _{n=2} *	dB <u>m</u>	<del>-17</del> -70		
R _{n=3} *	dB <u>m</u>	<del>-17</del> -70		

## Step d-e:

CPICH Ectle	dB <u>m/3.84</u>	<del>-15 -&gt; -17<u>-60 -&gt;</u></del>	<del>-17 -&gt; -15<u>-70</u></del>	<del>-17 -&gt; -13</del> -
	MHz	<u>-70</u>	<u>-&gt; -65</u>	<u>70 -&gt; -60</u>
R _s *	dB <u>m</u>	<del>-17</del> -70		
R _{n=2} *	dB <u>m</u>	-25 -> -15-85 -> -65 (ofter 40 eee)		
		- <del>23 -&gt; -13</del> -80 ->		
R _{n=3} *	dB <u>m</u>	<u>-60</u> (after 60 sec)		

# For TDD only:

Step a-c:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-73	-73
HCS priority		1	1	1
H _s *	dB	-69		
H _{n=2} *	dB	-73		
H _{n=3} *	dB	-73		
Rs*	dB	-69		
R _{n=2} *	dB	-73		
R _{n=3} *	dB	-73		

Step d-e:

Qoffset1 _{s,n=2}	dB	0 -> -10	
Qoffset1 _{s,n=3}	dB	0 -> -10	
TEMP_OFFSET1n=2	dB	10	
TEMP_OFFSET1 _{n=3}	dB	10	
PENALTY_TIME _{n=2}	sec	40	
PENALTY_TIME _{n=3}	sec	60	
Rs*	dB	-13	
D .*	dB	-73 -> -63	
►n=2	uВ	(after 40 sec)	
R _{n=3} *	dB	-73 -> -63	
	aВ	(after 60 sec)	

#### Test procedure

Method B is applied.

- a) The SS activates the cells 1-3 and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The SS changes the level of Cell 1-3.
- e) The SS waits for random access requests from the UE.

### 6.1.2.5.5 Test requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), there shall be no response from the UE on Cell 2 within 38 s of changing the parameters but the UE shall respond on Cell 2 within 50 s. There shall be no response from the UE on Cell 3 within 58 s of changing the parameters but the UE shall respond on Cell 3 within 70 s.
- NOTE: Minimum time set by PENALTY_TIME (cell 2) 2 s tolerance. Maximum time set by PENALTY_TIME (cell 2) + 6.4 s (T_{evaluateFDD} from TS 25.133, table 4.1 for FDD mode and T_{evaluateTDD} from TS 25.123, table 4.1 for TDD mode) + 1 280 msec. for system info scheduling + 2 s tolerance. Same calculation for Cell 3.

# 6.1.2.6 Emergency calls

#### 6.1.2.6.1 Definition

Test to verify that the UE shall be able to initiate emergency calls when no suitable cells of the selected PLMN are available, but at least one acceptable cell is available.

#### 6.1.2.6.2 Conformance requirement

1. Acceptable cell:

An "acceptable cell" is a cell on which the UE may camp to obtain limited service (originate emergency calls). Such a cell shall fulfil the following requirements, which is the minimum set of requirements to initiate an emergency call in a UTRAN network:

1.1 The cell is not barred;

1.2 The cell selection criteria are fulfilled.

2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.

- 2.1 The cell is part of the selected PLMN or, of a PLMN considered as equivalent by the UE according to the information provided by the NAS.
- 2.2 The cell is not barred.
- 2.3 The cell is not part of the list of "forbidden LAs for roaming".

2.4 The cell selection criteria are fulfilled.

- 3. If the UE is unable to find any suitable cell of selected PLMN the UE shall enter the Any cell selection state.
- 4. Any Cell Selection State: In this state, the UE shall attempt to find an acceptable cell of an any PLMN to camp on, trying all RATs that are supported by the UE and searching first for a high quality cell. The UE, which is not camped on any cell, shall stay in this state until an acceptable cell is found.
- 5. Camped on Any Cell State: In this state the UE obtains limited service. The UE shall regularly attempt to find a suitable cell of the selected PLMN, trying RATs that are supported by the UE. If a suitable cell is found, this causes an exit to the Camped normally State.
- 6. In the Camped on Any Cell State, the UE shall perform the cell reselection evaluation process on the following occasions/triggers:
  - 6.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD mode and TS 25.123 for TDD mode.
  - 6.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.

#### References

- 1. TS 25.304, clause 4.3.
- 2. TS 25.304, clause 4.3.
- 3. TS 25.304, clause 5.2.2.1.
- 4. TS 25.304, clause 5.2.8.
- 5. TS 25.304, clause 5.2.2.5.
- 6. TS 25.304, clause 5.2.9.1.

#### 6.1.2.6.3 Test purpose

- 1. To verify that the UE shall be able to initiate emergency calls when no suitable cells of the selected PLMN are available, but at least one acceptable cell is available.
- 2. To verify that the UE selects a cell with S>0 and CellBarred = 0 (acceptable cell) when no suitable cells of the selected PLMN are available.
- 3. To verify that the UE ranks the acceptable cells according to the cell-ranking criterion R which in this test case equals Q as Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME parameters are not used. Treselection is not used either.

## 6.1.2.6.4 Method of test

# Initial conditions

In step a-d, Cell 1 and 2 are neither suitable nor acceptable cells. Cell 3 is an acceptable cell but not suitable.

In step e-f, both Cell 1 and 3 are acceptable cells.

#### Step a-d:

For FDD only:

#### **Release 4**

Parameter	Unit	Cell 1	Cell 2	Cell 3
CPICH_Ec <mark>40</mark>	dB <u>m/3.84</u> <u>MHz</u>	<del>-15</del> -65	<del>-13<u>-60</u></del>	<del>-17<u>-70</u></del>
QqualminQrxlevmin	dB <u>m</u>	<del>-20</del> -80	<del>-10</del> -50	<del>-20</del> -80
Squal <u>Srxlev</u> *	dB <u>m</u>	<mark>5</mark> 15	<del>-3</del> -10	3 <u>10</u>
CellBarred		1	0	0
PLMN		forbidden	forbidden	forbidden

For TDD only:

Parameter	Unit	Cell 1	Cell 2	Cell 3
P-CCPCH RSCP	dBm	-69	-77	-71
CellBarred		1	0	0
PLMN		forbidden	forbidden	forbidden

#### Step e-f:

CellBarred 1 -> 0 0 0				
	CellBarred	1 -> 0	0	0

NOTE: All the BCCH cells belong to the same PLMN, which is not the UE's home PLMN and is in the USIM's forbidden PLMN's list.

## Test procedure

Method C is applied.

- a) The SS activates the cells and monitors them for random access requests from the UE.
- b) The UE is switched on.
- c) 50 s after switch on, an emergency call is initiated on the UE.
- d) The SS waits for random access request from the UE.
- e) The SS changes the CellBarred of Cell 1 to 0.
- f) After 30 s an emergency call is initiated on the UE.
- g) The SS waits for random access request from the UE.

## 6.1.2.6.5 Test requirements

- 1) In step d), the first access from the UE shall be on Cell 3.
- 2) In step g), the first access from the UE shall be on Cell 1.

# 6.1.2.7 Emergency calls; Intra-frequency cell "Not allowed"

# 6.1.2.7.1 Definition

Test to verify that for emergency call and cell status "barred", the Intra-frequency cell re-selection indicator IE is ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

## 6.1.2.7.2 Conformance requirement

- 1. When cell status "barred" is indicated:
  - The UE is not permitted to select/re-select this cell, not even for emergency calls.
  - The UE shall select another cell according to the following rule:

- If the "Intra-frequency cell re-selection indicator" IE is set to "not allowed" the UE shall not re-select a cell on the same frequency as the barred cell. For emergency call, the Intra-frequency cell re-selection indicator IE" shall be ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

#### References

1. TS 25.304, clause 5.3.1.1.

#### 6.1.2.7.3 Test purpose

To verify that for emergency call and cell status "barred", the Intra-frequency cell re-selection indicator IE is ignored, i.e. even if it is set to "not allowed" the UE may select another intra-frequency cell.

#### 6.1.2.7.4 Method of test

#### Initial conditions

Cell 1 and 2 are on the same carrier frequency.

Step a-c:

For FDD only:

Parameter	Unit	Cell 1	Cell 2
CPICH_Ec <mark>4o</mark>	dB <u>m/3.8</u> <u>4 MHz</u>	<del>-13<u>-60</u></del>	<del>-15<u>-70</u></del>
<u>Qqualmin</u>	dB	<del>-20</del>	<del>-20</del>
<del>Squal*</del>	dB	7	<del>5</del>
Intra-frequency cell re-		Not	Not allowed
selection indicator		allowed	Not allowed
CellBarred		0	0

#### For TDD only:

Parameter	Unit	Cell 1	Cell 2
P-CCPCH RSCP	dBm	-77	-69
CellBarred	dBm	0	0

Step d-i:

1				_
	CellBarred	0 -> 1	0	

#### Test procedure

Method C is applied.

- a) The SS activates the cells and monitors them for any random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access request from the UE.
- d) The SS sets Cell 1 to be barred.
- e) The SS waits to see if there is any random access request from the UE.
- f) By MMI, an attempt to originate a call is made.
- g) The SS waits to see if there is any random access request from the UE.

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- h) By MMI, an emergency call is initiated on the UE.
- i) The SS waits for random access request from the UE.

#### 6.1.2.6.5 Test requirements

- 1) In step c), after the UE has responded on Cell 1, it shall nor respond on any other cell within 1 min.
- 2) In step e), there shall be no response from the UE within 2 min.
- 3) In step g), there shall be no response from the UE within 2 min. It shall not be possible to originate the call.
- 4) In step i), the UE shall respond on Cell 2. It shall be possible to originate the emergency call.

# 6.2 Multi-mode environment (2G/3G case)

# 6.2.1 PLMN and RAT selection and reselection

6.2.1.1 Selection of the correct PLMN and associated RAT

#### 6.2.1.1.1 Definition

Test to verify that the UE selects the correct combination of PLMN and associated access technology according to the fields on the USIM.

#### 6.2.1.1.2 Conformance requirement

1. At switch on, or following recovery from lack of coverage, the MS selects the registered PLMN or equivalent PLMN (if it is available) using all access technologies that the MS is capable of and if necessary (in the case of recovery from lack of coverage, see TS 23.122, clause 4.5.2) attempts to perform a Location Registration.

If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

## References

1. TS 23.122, clause 4.4.3.1.

NOTE: TS 31.102 defines the USIM fields.

# 6.2.1.1.3 Test purpose

1. To verify that the UE selects the correct combination of PLMN and associated access technology according to the fields on the USIM.

# 6.2.1.1.4 Method of test

#### Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <u>RSCPEc</u> / RF signal level [dBm <u>/3.84 MHz]</u>	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-48	-48	1	PLMN 1	GSM
Cell 2	-72	-61	1	PLMN 1	UTRAN
Cell 3	-75	-64	2	PLMN 2	UTRAN
Cell 4	-50	-50	2	PLMN 2	GSM

The UE is equipped with a USIM containing default values except for those listed below.

# USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI			
EFHPLMNWACT	1 st	PLMN 1	GSM
	2 nd		UTRAN

# USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI			
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM

## Test procedure

Method B is applied.

- a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The UE is switched off and a USIM with settings according to USIM B is inserted.
- e) The UE is switched on.
- f) The SS waits for random access requests from the UE.

#### 6.2.1.1.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN1 (GSM).
- 2) In step f), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN2 (UTRAN).

# 6.2.1.2 Selection of RAT for HPLMN; Manual mode

## 6.2.1.2.1 Definition

Test to verify that the UE selects the HPLMN RAT according to the HPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall try to obtain registration on the same PLMN using other UE-supported RATs.

## 6.2.1.2.2 Conformance requirement

 To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM together with PLMN codes. This version of the specification does not support multiple HLPMN codes and the "HPLMN Selector with Access Technology" data field is only used by the MS to get the HPLMN access technologies. The HPLMN code is the PLMN code included in the IMSI.

- 2. For HPLMN, the MS shall search for all access technologies it is capable of. The MS shall start its search using the access technologies stored in the "HPLMN Selector with Access Technology" data field on the SIM in priority order (i.e. the PLMN/access technology combinations are listed in priority order, if an entry includes more than one access technology then no priority is defined for the preferred access technology and the priority is an implementation issue).
- 3. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

- 3.1 HPLMN;
- 3.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 3.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 3.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 3.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

#### References

- 1. TS 23.122, clause 4.4.3.
- 2. TS 23.122, clause 4.4.3.1.1 (f).
- 3. TS 23.122, clause 4.4.3.1.2.
- NOTE: TS 31.102 defines the USIM fields.

#### 6.2.1.2.3 Test purpose

- 1. To verify that:
  - 1.1 the UE searches for a HPLMN RAT according to the HPLMN Selector with Access Technology data field on the USIM in priority order.
  - 1.2 If no RAT on the priority list is available, the UE tries to obtain registration on the same PLMN using other UE-supported RATs.

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## 6.2.1.2.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <del>RSCP<u>Ec</u> / RF signal level [dBm<u>/3.84 MHz]</u> (FDD)</del>	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 2	UTRAN
Cell 2	-48	-48	1	PLMN 2	GSM
Cell 3	-75	-64	2	PLMN 3	UTRAN
Cell 4	-50	-50	2	PLMN 3	GSM

The UE is equipped with a USIM containing default values except for those listed below.

# USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
	1 st	PLMN 2	UTRAN
	2 nd		GSM

## USIM B

USIM field	Priority	PLMN	Access Technology Identifier
		PLMN 1	
<b>EF</b> HPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		

# Test procedure

Method B is applied.

- a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.
- b) The UE is switched on.
- c) PLMN2 (UTRAN) shall be selected when the PLMN list is presented.
- d) The SS waits for random access requests from the UE.
- e) Cell 1 is switched off.
- f) PLMN2 (GSM) shall be selected when the PLMN list is presented.
- g) The SS waits for random access requests from the UE.
- h) The UE is switched off and a USIM with settings according to USIM B is inserted. All cells except Cell 1 are active.
- i) The UE is switched on.
- j) PLMN2 (GSM) shall be selected when the PLMN list is presented.
- k) The SS waits for random access requests from the UE.

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#### 6.2.1.2.5 Test Requirements

- 1) In step c), the list shall be presented. It shall contain as highest priority PLMN2 (UTRAN as number 1 on the list and GSM as number 2).
- 2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{HPLMNwAcT}). The displayed PLMN shall be PLMN2 (UTRAN).
- 3) In step f), the list shall be presented. It shall contain as highest priority PLMN2 (GSM).
- 4) In step g), the response from the UE shall be on Cell 2 (2nd priority RAT for EF_{HPLMNwAcT}). The displayed PLMN shall be PLMN2 (GSM).
- 5) In step j), the list shall be presented. It shall contain as highest priority PLMN2 (GSM).
- 6) In step k), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM). (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

## 6.2.1.3 Selection of RAT for UPLMN; Manual mode

# 6.2.1.3.1 Definition

Test to verify that the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for PLMNs in the OPLMN list.

## 6.2.1.3.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

#### 1.1 HPLMN;

- 1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

#### References

1. TS 23.122, clause 4.4.3.1.2.

NOTE: TS 31.102 defines the USIM fields.

# 6.2.1.3.3 Test purpose

1. To verify that:

1.1 the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM.

1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN with another RAT but instead searches for PLMNs in the OPLMN list.

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## 6.2.1.3.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <u>RSCPEc</u> / RF signal level [dBm <u>/3.84 MHz</u> ] (FDD)	P-CCPCH_RSCP/ RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 3	UTRAN
Cell 2	-48	-48	1	PLMN 3	GSM
Cell 3	-75	-64	2	PLMN 4	UTRAN
Cell 4	-50	-50	2	PLMN 4	GSM
Cell 5	-78	-67	3	PLMN 5	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
EFPLMNwAcT	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 nd	PLMN 6	GSM

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) PLMN3 (UTRAN) shall be selected when the PLMN list is presented.
- d) The SS waits for random access requests from the UE.
- e) Cell 1 is switched off.
- f) PLMN4 (GSM) shall be selected when the PLMN list is presented.
- g) The SS waits for random access requests from the UE.
- h) Cell 4 is switched off.

- i) PLMN5 (UTRAN) shall be selected when the PLMN list is presented.
- j) The SS waits for random access requests from the UE.

#### 6.2.1.3.5 Test Requirements

- 1) In step c), the list shall be presented. It shall contain in priority PLMN3 (UTRAN), PLMN4 (GSM), other PLMNs.
- 2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{PLMNwAcT}). The displayed PLMN shall be PLMN3 (UTRAN).
- 3) In step f), the list shall be presented. It shall contain in priority PLMN4 (GSM), PLMN5 (UTRAN), other PLMNs.
- 4) In step g), the response from the UE shall be on Cell 4 (2nd priority RAT for EF_{PLMNwACT}). The displayed PLMN shall be PLMN4 (GSM).
- 5) In step i), the list shall be presented. It shall contain as highest priority PLMN5 (UTRAN).
- 6) In step j), the response from the UE shall be on Cell 5 (1st priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN5 (UTRAN).

# 6.2.1.4 Selection of RAT for OPLMN; Manual mode

#### 6.2.1.4.1 Definition

Test to verify that the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for other PLMN/access technology combinations with received high quality signal in random order.

#### 6.2.1.4.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

- 1.1 HPLMN;
- 1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

#### References

- 1. TS 23.122, clause 4.4.3.1.2.
- NOTE: TS 31.102 defines the USIM fields.

#### 6.2.1.4.3 Test purpose

- 1. To verify that:
  - 1.1 the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM.
  - 1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN(s) with other RAT(s) but instead searches for "other PLMN/access technology combinations with received high quality signal in random order".

#### 6.2.1.4.4 Method of test

#### Initial conditions

The UE is in manual PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <u>RSCPEc</u> / RF signal level [dBm <u>/3.84 MHz]</u> (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 5	UTRAN
Cell 2	-48	-48	1	PLMN 5	GSM
Cell 3	-75	-64	2	PLMN 6	UTRAN
Cell 4	-50	-50	2	PLMN 6	GSM
Cell 5	-78	-67	3	PLMN 7	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
EFPLMNWACT	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 ^{na}	PLMN 6	GSM

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) PLMN5 (UTRAN) shall be selected when the PLMN list is presented.

- d) The SS waits for random access requests from the UE.
- e) Cell 1 is switched off.
- f) PLMN6 (GSM) shall be selected when the PLMN list is presented.
- g) The SS waits for random access requests from the UE.
- h) Cell 4 is switched off.
- i) PLMN7 (UTRAN) shall be selected when the PLMN list is presented.
- j) The SS waits for random access requests from the UE.

#### 6.2.1.4.5 Test Requirements

- 1) In step c), the list shall be presented. It shall contain in priority PLMN5 (UTRAN), PLMN6 (GSM), other PLMNs.
- 2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN5 (UTRAN).
- 3) In step f), the list shall be presented. It shall contain as highest priority PLMN6 (GSM) followed by PLMN5 (GSM), PLMN6 (UTRAN) and PLMN7 (UTRAN) in random order.
- 4) In step g), the response from the UE shall be on Cell 4 (2nd priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN6 (GSM).
- 5) In step i), the list shall be presented. It shall contain PLMN5 (GSM), PLMN6 (UTRAN) and PLMN7 (UTRAN) in random order.
- 6) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN7 (UTRAN).

# 6.2.1.5 Selection of "Other PLMN / access technology combinations"; Manual mode

#### 6.2.1.5.1 Definition

Test to verify that if neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE first tries to obtain registration on "Other PLMN/access technology combinations with received high quality signal in random order" and secondly on "Other PLMN/access technology combinations in order of decreasing signal quality".

#### 6.2.1.5.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes PLMNs in the "forbidden PLMNs" list and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

#### 1.1 HPLMN;

- 1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

In 1.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the "forbidden LAs for roaming", "forbidden LAs for regional provision of service", "forbidden PLMNs for GPRS service" and "forbidden PLMNs" lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

- NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.
- 2. UTRA case: The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:
  - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.
  - For a TDD cell, the measured P-CCPCH RSCP value shall be greater than or equal to -84 dBm.

Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

3. GSM case: A PLMN shall be understood to be received with high quality signal if the signal level is above -85 dBm.

#### References

- 1. TS 23.122, clause 4.4.3.1.2.
- 2. TS 25.304, clause 5.1.2.2.
- 3. TS 03.22, clause 4.4.3.

NOTE: TS 31.102 defines the USIM fields.

6.2.1.5.3 Test purpose

- 1. To verify that:
  - 1.1 If neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE tries to obtain registration on "Other PLMN/access technology combinations with received high quality signal in random order".
  - 1.2 If no PLMN is available in test purpose 1.1, the UE tries to obtain registration on "Other PLMN/access technology combinations in order of decreasing signal quality".
- 2. The "random order" in test purpose 1.1 is not verified.

## 6.2.1.5.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

#### Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).

Cell	CPICH_ <u>RSCPEc</u> /RF signal level [dBm <u>/3.84 MHz</u> ] (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	High Quality signal	Test Channel	PLMN	Radio Access Technology
Cell 1	-80	-69	Yes	1	PLMN 7	UTRAN
Cell 2	-65	-65	Yes	1	PLMN 8	GSM
Cell 3	-98	-87	No	2	PLMN 9	UTRAN
Cell 4	-101	-90	No	2	PLMN 10	UTRAN
Cell 5	-88	-88	No	3	PLMN 11	GSM
Cell 6	-91	-91	No	3	PLMN 12	GSM

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
EFPLMNwAcT	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 nd	PLMN 6	GSM
EF _{FPLMN}		PLMN 7	
		PLMN 12	

## Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) PLMN11 shall be selected when the PLMN list is presented.
- d) The SS waits for random access requests from the UE.
- e) Cell 5 is switched off.
- f) PLMN8 shall be selected when the PLMN list is presented.
- g) The SS waits for random access requests from the UE.
- h) Cell 2 is switched off.
- i) PLMN10 shall be selected when the PLMN list is presented.
- j) The SS waits for random access requests from the UE.
- k) Cell 4 is switched off.
- PLMN7 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.
- m) Cell 1 is switched off.

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- n) PLMN9 shall be selected when the PLMN list is presented.
- o) The SS waits for random access requests from the UE.
- p) Cell 3 is switched off.
- q) PLMN12 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.
- r) Cell 6 is switched off.

## 6.2.1.5.5 Test Requirements

In all steps, the PLMN priority list shall be as follows: PLMN7, PLMN8 in random order followed by the other PLMNs. PLMN9 shall always come before PLMN10 and PLMN11 shall always come before PLMN12.

- 1) In step c), the list shall be presented and contain PLMN7, 8, 9, 10, 11, 12.
- 2) In step d), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN11.
- 3) In step f), the list shall be presented and contain PLMN7, 8, 9, 10, 12.
- 4) In step g), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN8.
- 5) In step i), the list shall be presented and contain PLMN7, 9, 10, 12.
- 6) In step j), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN10.
- 7) In step l), the list shall be presented and contain PLMN7, 9, 12. After the PLMN has been selected, the list shall appear again as the UE cannot perform registration.
- 9) In step n), the list shall be presented and contain PLMN9, 12.
- 10)In step o), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN9.
- 11) In step q), the list shall be presented and shall only contain PLMN12. After the PLMN has been selected, the list shall appear again as the UE cannot perform registration.
- 13) After step r), the UE shall inform that no network is available

# 6.2.1.6 Selection of RAT for HPLMN; Automatic mode

# 6.2.1.6.1 Definition

Test to verify that the UE selects the HPLMN RAT according to the HPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall try to obtain registration on the same PLMN using other UE-supported RATs.

## 6.2.1.6.2 Conformance requirement

- To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM together with PLMN codes. This version of the specification does not support multiple HLPMN codes and the "HPLMN Selector with Access Technology" data field is only used by the MS to get the HPLMN access technologies. The HPLMN code is the PLMN code included in the IMSI.
- 2. For HPLMN, the MS shall search for all access technologies it is capable of. The MS shall start its search using the access technologies stored in the "HPLMN Selector with Access Technology" data field on the SIM in priority order (i.e. the PLMN/access technology combinations are listed in priority order, if an entry includes more than one access technology then no priority is defined for the preferred access technology and the priority is an implementation issue).
- 3. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

3.1 HPLMN (if not previously selected);

- 3.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 3.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 3.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 3.5 Other PLMN/access technology combinations in order of decreasing signal quality.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

#### References

- 1. TS 23.122, clause 4.4.3.
- 2. TS 23.122, clause 4.4.3.1.1 (f).
- 3. TS 23.122, clause 4.4.3.1.1.
- NOTE: TS 31.102 defines the USIM fields.

# 6.2.1.6.3 Test purpose

- 1. To verify that:
  - 1.1 the UE searches for a HPLMN RAT according to the HPLMN Selector with Access Technology data field on the USIM in priority order.
  - 1.2 If no RAT on the priority list is available, the UE tries to obtain registration on the same PLMN using other UE-supported RATs.

#### 6.2.1.6.4 Method of test

#### Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <mark>RSCPE <u>c</u> / RF signal level [dBm<u>/3.84 MHz]</u> (FDD)</mark>	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 2	UTRAN
Cell 2	-48	-48	1	PLMN 2	GSM
Cell 3	-75	-64	2	PLMN 3	UTRAN
Cell 4	-50	-50	2	PLMN 3	GSM

The UE is equipped with a USIM containing default values except for those listed below.

#### 3GPP TS 34.123-1 V4.1.0 (2001-12)

## USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM

## USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EF _{HPLMNwAcT}	1 st	PLMN 2	UTRAN
	2 nd		

## Test procedure

Method B is applied.

- a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The UE is switched off and a USIM with settings according to USIM A is again inserted. All cells except Cell 1 are active.
- e) The SS waits for random access requests from the UE.
- f) The UE is switched off and a USIM with settings according to USIM B is inserted. All cells except Cell 1 are active.
- g) The UE is switched on.
- h) The SS waits for random access requests from the UE.

# 6.2.1.6.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{HPLMNwAcT}). The displayed PLMN shall be PLMN2 (UTRAN).
- 2) In step e), the response from the UE shall be on Cell 2 (2nd priority RAT for EF_{HPLMNwAcT}). The displayed PLMN shall be PLMN2 (GSM).
- 3) In step h), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM). (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

# 6.2.1.7 Selection of RAT for UPLMN; Automatic mode

#### 6.2.1.7.1 Definition

Test to verify that the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for PLMNs in the OPLMN list.

#### 6.2.1.7.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

- 1.1 HPLMN (if not previously selected);
- 1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;

1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

#### References

1. TS 23.122, clause 4.4.3.1.1.

NOTE: TS 31.102 defines the USIM fields.

# 6.2.1.7.3 Test purpose

- 1. To verify that:
  - 1.1 the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM.
  - 1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN with another RAT but instead searches for PLMNs in the OPLMN list.

# 6.2.1.7.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <mark>RSCPE <u>c</u> / RF signal level [dBm<u>/3.84 MHz]</u> (FDD)</mark>	P-CCPCH / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 3	UTRAN
Cell 2	-48	-48	1	PLMN 3	GSM
Cell 3	-75	-64	2	PLMN 4	UTRAN
Cell 4	-50	-50	2	PLMN 4	GSM
Cell 5	-78	-67	3	PLMN 5	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
EFPLMNWACT	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 nd	PLMN 6	GSM

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) Cell 1 is switched off.
- e) The SS waits for random access requests from the UE.
- f) Cell 4 is switched off.
- g) The SS waits for random access requests from the UE.

#### 6.2.1.7.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{PLMNwAcT}). The displayed PLMN shall be PLMN3 (UTRAN).
- 2) In step e), the response from the UE shall be on Cell 4 ( $2^{nd}$  priority RAT for EF_{PLMNwAcT}). The displayed PLMN shall be PLMN4 (GSM).
- 3) In step g), the response from the UE shall be on Cell 5 (1st priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN5 (UTRAN).

# 6.2.1.8 Selection of RAT for OPLMN; Automatic mode

#### 6.2.1.8.1 Definition

Test to verify that the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for other PLMN/access technology combinations with received high quality signal in random order.

#### 6.2.1.8.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

- 1.1 HPLMN (if not previously selected);
- 1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;

1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

#### References

1. TS 23.122, clause 4.4.3.1.1.

NOTE: TS 31.102 defines the USIM fields.

#### 6.2.1.8.3 Test purpose

- 1. To verify that:
  - 1.1 the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM.
  - 1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN(s) with other RAT(s) but instead searches for "other PLMN/access technology combinations with received high quality signal in random order".

#### 6.2.1.8.4 Method of test

#### Initial conditions

The UE is in automatic PLMN selection mode.

Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD). Cell levels are from tables 6.3 and 6.4.

Cell	CPICH_ <u>RSCPEc</u> / RF signal level [dBm <u>/3.84 MHz]</u> (FDD)	P-CCPCH_RSCP / RF signal level [dBm] (TDD)	Test Channel	PLMN	Radio Access Technology
Cell 1	-72	-61	1	PLMN 5	UTRAN
Cell 2	-48	-48	1	PLMN 5	GSM
Cell 3	-75	-64	2	PLMN 6	UTRAN
Cell 4	-50	-50	2	PLMN 6	GSM
Cell 5	-78	-67	3	PLMN 7	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
EFPLMNwAcT	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 nd	PLMN 6	GSM

#### Test procedure

Method B is applied.

a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE.

- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) Cell 1 is switched off.
- e) The SS waits for random access requests from the UE.
- f) Cell 4 is switched off.
- g) The SS waits for random access requests from the UE.

#### 6.2.1.8.5 Test Requirements

- 1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN5 (UTRAN).
- 2) In step e), the response from the UE shall be on Cell 4 (2nd priority RAT for EF_{OPLMNwAcT}). The displayed PLMN shall be PLMN6 (GSM).
- 3) In step g), the response from the UE shall be on either Cell 2, 3 or 5 (other PLMN/access technology combination) with associated PLMN5 (GSM), PLMN6 (UTRAN) or PLMN7 (UTRAN) shown.

# 6.2.1.9 Selection of "Other PLMN / access technology combinations"; Automatic mode

#### 6.2.1.9.1 Definition

Test to verify that if neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE first tries to obtain registration on "Other PLMN/access technology combinations with received high quality signal in random order" and secondly on "Other PLMN/access technology combinations in order of decreasing signal quality".

#### 6.2.1.9.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

- 1.1 HPLMN (if not previously selected);
- 1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);
- 1.4 Other PLMN/access technology combinations with received high quality signal in random order;
- 1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

In 1.5, the MS shall order the PLMN/access technology combinations in order of decreasing signal quality within each access technology. The order between PLMN/access technology combinations with different access technologies is an MS implementation issue.

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in the "forbidden LAs for regional provision of service" list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

- 2. UTRA case: The UE shall scan all RF channels in the UTRA band according to its capabilities to find available PLMNs. On each carrier, the UE shall search for the strongest cell according to the cell search procedures (for FDD, see TS 25.214, and TDD, see TS 25.224) and read its system information, in order to find out which PLMN the cell belongs to. If the UE can read the PLMN identity, the found PLMN shall be reported to the NAS as a high quality PLMN (but without the RSCP value), provided that the following high quality criterion is fulfilled:
  - For an FDD cell, the measured primary CPICH RSCP value shall be greater than or equal to -95 dBm.
  - For a TDD cell, the measured P-CCPCH RSCP shall be greater than or equal to -84 dBm.

Found PLMNs that do not satisfy the high quality criterion, but for which the UE has been able to read the PLMN identities are reported to the NAS together with the CPICH RSCP value for UTRA FDD cells and P-CCPCH RSCP for UTRA TDD cells.

3. GSM case: A PLMN shall be understood to be received with high quality signal if the signal level is above -85 dBm.

### References

- 1. TS 23.122, clause 4.4.3.1.1.
- 2. TS 25.304, clause 5.1.2.2.
- 3. TS 03.22, clause 4.4.3.
- NOTE: TS 31.102 defines the USIM fields.

## 6.2.1.9.3 Test purpose

- 1. To verify that:
  - 1.1 If neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE tries to obtain registration on "Other PLMN/access technology combinations with received high quality signal in random order".
  - 1.2 If no PLMN is available in test purpose 1.1, the UE tries to obtain registration on "Other PLMN/access technology combinations in order of decreasing signal quality".
- 2. The "random order" in test purpose 1.1 is not verified.

#### 6.2.1.9.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

#### Cell_selection_and_reselection_quality_measure is CPICH_RSCP (FDD).

Cell	CPICH_ <u>RSCPE</u> <u>c</u> /RF signal level [dBm <u>/3.84</u> <u>MHz</u> ] (FDD)	P- CCPCH_RSCP / RF signal level [dBm] (TDD)	"High Quality signal"	Test Channel	PLMN	Radio Access Technology
Cell 1	-80	-69	Yes	1	PLMN 7	UTRAN
Cell 2	-65	-65	Yes	1	PLMN 8	GSM
Cell 3	-98	-87	No	2	PLMN 9	UTRAN
Cell 4	-101	-90	No	2	PLMN 10	UTRAN
Cell 5	-88	-88	No	3	PLMN 11	GSM
Cell 6	-91	-91	No	3	PLMN 12	GSM

#### **Release 4**

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EFLOCI		PLMN 1	
EFHPLMNWACT	1 st	PLMN 2	UTRAN
	2 nd		GSM
	1 st	PLMN 3	UTRAN
	2 nd	PLMN 4	GSM
EFOPLMNWACT	1 st	PLMN 5	UTRAN
	2 nd	PLMN 6	GSM

#### Test procedure

Method B is applied.

- a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access requests from the UE.
- d) The cell on which a response was received, is switched off.
- e) Step c-d) is repeated until the UE informs that no network is available.

# 6.2.1.9.5 Test Requirements

- 1) In step c), the displayed PLMN is noted.
- 2) When the test procedure has finished, the noted PLMNs shall have appeared in the following order: PLMN7, PLMN8 in random order followed by the other PLMNs. PLMN9 shall come before PLMN10 and PLMN11 shall come before PLMN12.

# 6.2.2 Cell selection and reselection

# 6.2.2.1 Cell reselection if cell becomes barred or S<0; UTRAN to GSM

# 6.2.2.1.1 Definition

Test to verify that if both a GSM and UTRAN network is available, the UE performs cell reselection from UTRAN to GSM if the UTRAN cell becomes barred or S falls below zero.

# 6.2.2.1.2 Conformance requirement

- 1. When camped on a cell, the UE shall regularly search for a better cell according to the cell reselection criteria. If a better cell is found, that cell is selected. The change of cell may imply a change of RAT.
- 2. A "suitable cell" is a cell on which the UE may camp on to obtain normal service. Such a cell shall fulfil all the following requirements.
  - 2.1 The cell is part of the selected PLMN or, of a PLMN considered as equivalent by the UE according to the information provided by the NAS.
  - 2.2 The cell is not barred.
  - 2.3 The cell is not part of the list of "forbidden LAs for roaming".
  - 2.4 The cell selection criteria are fulfilled.

- 3. When camped normally, the UE shall execute the cell reselection evaluation process on the following occasions/triggers:
  - 3.1 UE internal triggers, so as to meet performance as specified in TS 25.133 for FDD and TS 25.123 for TDD.
  - 3.2 When information on the BCCH used for the cell reselection evaluation procedure has been modified.
- 4. Cell Reselection Criteria:
  - 4.1 The UE shall perform ranking of all cells that fulfil the S criterion.
  - 4.2 The cells shall be ranked according to the R criteria specified above, deriving Qmeas, n and Qmeas, s and calculating the R values using CPICH RSCP, P-CCPCH RSCP and the averaged received signal level as specified in TS 25.133 and TS 25.123 for FDD, TDD and GSM cells, respectively. The best ranked cell is the cell with the highest R value. If a TDD or GSM cell is ranked as the best cell, then the UE shall perform cell re-selection to that TDD or GSM cell.
  - 4.3 In all cases, the UE shall reselect the new cell, only if the cell reselection criteria are fulfilled during a time interval Treselection.
  - 4.4 The cell-ranking criterion R is derived from Q, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME. However, TEMP_OFFSET and PENALTY_TIME are only applicable if the usage of HCS is indicated in system information.

#### References

- 1. TS 25.304, clause 5.2.1.
- 2. TS 25.304, clause 4.3.
- 3. TS 25.304, clause 5.2.5.1.
- 4. TS 25.304, clause 5.2.6.1.4.

#### 6.2.2.1.3 Test purpose

- 1. To verify that the UE performs reselection from UTRAN to GSM on the following occasions:
  - 1.1 Serving cell becomes barred.
  - 1.2 S<0 for serving cell.

# 6.2.2.1.4 Method of test

#### Initial conditions

The USIM does not contain any preferred RAT.

Step a-c:

Parameter	Unit	Cell 1 (UTRAN)
Test Channel		1
CPICH_Ec/lo (FDD)	₿	<del>-11</del>
CPICH <u>RSCPEc</u> (FDD)	dBm	<u>-74_60</u>
P-CCPCH RSCP (TDD)	dBm	-63
<del>Qqualmin (FDD)</del>	d₿	<del>-20</del>
Qrxlevmin	dBm	-100
<del>Squal* (FDD)</del>	₿	<del>9</del>
Srxlev*	dBm	<del>26</del> 40
CellBarred		0

Parameter	Unit	Cell 2 (GSM)	Cell 3 (GSM)
Test Channel		1	2
RF Signal Level	dBm	-80	-85
RXLEV_ACCESS _MIN	dBm	-100	-100
C1*	dBm	20	15
FDD_Qmin	dB	-20	-20
FDD_Qoffset	dBm	0	0

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Step d-f:

Parameter	Unit	Cell 1 (UTRAN)
CellBarred		0 -> 1

Step g:

Parameter	Unit	Cell 1 (UTRAN)
QqualminQrxlev min	dB	<del>-20 -&gt; -5</del> -100 -> -40
Squal <u>Srxlev</u> *	dB	<del>9 -&gt; -6<u>40</u> -&gt; -20</del>
<b>Qrxlevmin</b>	<del>dBm</del>	<del>[TBD]</del>

#### Test procedure

Method B is applied.

- a) The SS activates cells 1, 2, and 3. The SS monitors cells 1, 2 and 3 for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access request from the UE.
- d) The SS sets Cell 1 to be barred.
- e) The SS waits for random access request from the UE.
- f) The stored information cell selection list in the UE is deleted and the UE is switched off.
- g) Step a-e) is repeated except that in step d), Qqualmin is increased to <u>5 dBQrxlevmin is increased</u>, so S will become negative instead of being barred. Step g does not apply to TDD cells.

#### 6.2.2.1.5 Test Requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), the UE shall respond on Cell 2.
- 3) In step g), the UE shall respond on Cell 2 after Qualmin Orxlevmin is increased to 5dB. Step g does not apply to the testing of TDD cells.

# 6.2.2.2 Cell reselection if cell becomes barred or C1<0; GSM to UTRAN

# 6.2.2.2.1 Definition

Test to verify that if both a GSM and UTRAN network is available, the UE performs cell reselection from GSM to UTRAN if the GSM cell becomes barred or the path loss criterion C1 falls below zero for a period of 5 s.

# 6.2.2.2.2 Conformance requirement

- 1. At least every 5 s the MS shall calculate the value of C1 and C2 for the serving cell and re-calculate C1 and C2 values for non serving cells (if necessary). The MS shall then check whether:
  - 1.1 The path loss criterion (C1) for current serving cell falls below zero for a period of 5 s. This indicates that the path loss to the cell has become too high.
- 2. While camped on a cell of the registered PLMN ("camped normally"), the MS may need to select a different cell ("normal cell reselection" state). The following events trigger a cell reselection:
  - 2.1 The path loss criterion parameter C1 (see TS 03.22, clause 3.6) indicates that the path loss to the cell has become too high;
  - 2.2 The cell camped on (current serving cell) has become barred.

#### References

- 1. TS 05.08, clause 6.6.2.
- 2. TS 03.22, clause 4.5.

#### 6.2.2.2.3 Test purpose

- 1. To verify that the UE performs reselection from GSM to UTRAN on the following occasions:
  - 1.1 Serving cell becomes barred.
  - 1.2 The path loss criterion C1 for serving cell falls below zero for a period of 5 s.

#### 6.2.2.2.4 Method of test

## Initial conditions

The USIM does not contain any preferred RAT.Step a-c:

Parameter	Unit	Cell 1 (GSM)	
Test Channel		1	
RF Signal Level	dBm	-50	
RXLEV_ACCESS_ MIN	dBm	-70	
MS_TXPWR_MAX_ CCH	dBm	Max. output power of UE	
FDD_Qmin	dB	-20	
FDD_Qoffset	dBm	0	
CellBarred		0	
C1*	dBm	20	

Parameter	Unit	Cell 2 (UTRAN)	Cell 3 (UTRAN)
P-CCPCH_RSCP (TDD)	dBm	-65	-67
CPICH_Ec/lo (FDD)	<del>dB</del>	<del>-13</del>	<del>-15</del>
CPICH_ <mark>RSCP<u>Ec</u> (FDD)</mark>	dBm <u>/3.8</u> <u>4 MHz</u>	<del>-76<u>-60</u></del>	- <u>78-70</u>
<del>Qqualmin (FDD)</del>	d₿	<del>-20</del>	<del>-20</del>
Qrxlevmin	dBm	-100	-100
Squal* (FDD)	dB	7	5
Srxlev*	dBm	<del>24<u>40</u></del>	<mark>22</mark> 30

Step d-e:
Parameter	Unit	Cell 1 (GSM)
CellBarred		0 -> 1

Step f-g:

Parameter	Unit	Cell 1 (GSM)	
RF Signal Level	dBm	-50 -> -80 (4sec) -> -50	
C1*	dBm	20 -> -10 (4sec) -> 20	

Step h:

Parameter	Unit	Cell 1 (GSM)
RF Signal Level	dBm	-50 -> -80
C1*	dBm	20 -> -10

### Test procedure

Method B is applied.

- a) The SS activates cells 1, 2, and 3. The SS monitors cells 1, 2 and 3 for random access requests from the UE.
- b) The UE is switched on.
- c) The SS waits for random access request from the UE.
- d) The SS sets Cell 1 to be barred.
- e) The SS waits for random access request from the UE.
- f) The stored information cell selection list in the UE is deleted and the UE is switched off.
- g) Step a-e) is repeated except that in step d), the SS reduces signal level on Cell 1 to -80 dBm for 4 s and then raises the level back to -50 dBm (C1 becomes -10 dBm during this period).
- h) The SS reduces signal level on Cell 1 to -80 dBm.

### 6.2.2.2.5 Test Requirements

- 1) In step c), after the UE has responded on Cell 1, it shall not respond on any other cell within 1 min.
- 2) In step e), the UE shall respond on Cell 2.
- 3) In step g), there shall be no access on Cell 2 within 30 s, after having reduced the signal level on Cell 1.
- 4) In step h), the UE shall respond on Cell 2.

# 6.2.2.3 Cell reselection timings; GSM to UTRAN

## 6.2.2.3.1 Definition

Test to verify that the UE meets the cell reselection timing requirements when both a GSM and UTRAN network is available.

### 6.2.2.3.2 Conformance requirement

- 1. If the 3G Cell Reselection list (see TS 04.18) includes UTRAN frequencies, the MS shall, at least every 5 s update the value RLA_C for the serving cell and each of the at least 6 strongest non-serving GSM cells.
  - 1.1 The MS shall then reselect a suitable UTRAN cell if its measured RSCP value exceeds the value of RLA_C for the serving cell and all of the suitable non-serving GSM cells by the value XXX_Qoffset for a period of 5 s and, for FDD, the UTRAN cells measured Ec/No value is equal or greater than the value FDD_Qmin.
    - Ec/No and RSCP are the measured quantities.
    - FDD_Qmin and XXX_Qoffset are broadcast on BCCH of the serving cell. XXX indicates other radio access technology/mode.
  - 1.2 In case of a cell reselection occurring within the previous 15 s, XXX_Qoffset is increased by 5 dB.
  - 1.3 Cell reselection to UTRAN shall not occur within 5 s after the MS has reselected a GSM from an UTRAN cell if a suitable GSM cell can be found.
  - 1.4 If more than one UTRAN cell fulfils the above criteria, the UE shall select the cell with the greatest RSCP value.
- 2. The MS shall be able to identify and select a new best UTRAN cell on a frequency, which is part of the 3G Cell Reselection list, within 30 s after it has been activated under the condition that there is only one UTRAN frequency in the list and under good radio conditions.

The allowed time is increased by 30 s for each additional UTRAN frequency in the 3G Cell Reselection list. However, multiple UTRAN cells on the same frequency in the neighbour cell list does not increase the allowed time.

NOTE: Definitions of measurements are in TS 25.215 and TS 25.101 for FDD mode, in TS 25.225 and TS 25.102 for TDD mode, clause 3.2 and TS 05.08, clause 6.1.

### References

- 1. TS 05.08, clause 6.6.5.
- 2. TS 05.08, clause 6.6.4.

## 6.2.2.3.3 Test purpose

- 1. To verify that:
  - 1.1 The UE meets conformance requirement 1.1 and additionally, that no reselection is performed if the period is less than 5 s
  - 1.2 The UE meets conformance requirement 1.2.
  - 1.3 The UE meets conformance requirement 1.3.

# 6.2.2.3.4 Method of test

## Initial conditions

The USIM does not contain any preferred RAT.

Step a-c:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
Test Channel		1	2
RF Signal Level	dBm	-70	-85
RXLEV_ACCESS_ MIN	dBm	-100	-100
MS_TXPWR_MAX_ CCH	dBm	Max. output power of UE	Max. output power of UE
FDD_Qmin	dBm	-20	-20
FDD_Qoffset	dBm	5	5

Parameter	Unit	Cell 3 (UTRAN)
Test Channel		1
CPICH_Ec/lo (FDD)	dB	<del>-11</del>
CPICH_RSCP (FDD)	dBm	-74
P-CCPCH_RSCP (TDD)	dBm	-63
Qqualmin (FDD)	dB	<del>-20</del>
Qrxlevmin	dBm	-100
Squal* (FDD)	dB	<del>9</del>
Srxlev*	dBm	26

# Step d-g:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-70 -> -82 (4 s) -> -70	OFF

Step h-j:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-82 ->	OFF
		-70	

Step k-m:

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
RF Signal Level	dBm	-82 -> -70 -> -82	OFF

# Test procedure

NOTE: Step a-c): Test purpose 1.3. Step d-g): test purpose 1.1. Step h-k): test purpose 1.2.

### Method A is applied.

- a) The SS activates the channels. The UE is not paged on any of the cells.
- b) The UE is switched on.
- c) After 50 s, the SS starts paging continuously on cells 1 and 3 for 20 s. The SS monitors cells 1 and 3 for random access requests from the UE.
- d) Cell 2 is switched off. The SS stops paging on the cells and waits for 20 s. (The UE should revert to Cell 1 due to cell reselection).

- e) The SS starts paging continuously on Cell 3.
- f) The SS decreases the transmit level of Cell 1 to -82 dBm for a period of 4 s (RSCP will then exceed RXLEV by more than XXX_Qoffset) and then changes the level back to -70 dBm.
- g) The SS waits to see if there is any random access requests from the UE on Cell 3.
- h) The SS stops paging on all cells and sets the transmit level of Cell 1 to -82 dBm.
- i) The SS waits 20 s and then starts paging continously on Cell 1. (The UE should revert to Cell 3 due to cell reselection).
- j) The SS increases the transmit level of Cell 1 to -70 dBm and waits for the UE to access on Cell 1. The SS records the time t from the increase in the level of Cell 1 to the first response from the UE.
- k) The SS stops paging on all cells and sets the transmit level of Cell 1 back to -82 dBm.
- 1) The SS waits 20 s (The UE should revert to Cell 3 due to cell reselection).
- m) The SS increases the transmit level of Cell 1 to -70 dBm. After t+2 s (i.e. 2 s after reselection to Cell 1), the SS starts paging continuously on Cell 3, changes the level of Cell 1 back to -82 dBm and waits to see if there is any random access request on Cell 3. (Within 15 sec after reselection to GSM, the level of Cell 1 is -82 + 10 dBm=-72 dBm. After the 15 s period, the level of Cell 1 is -82 + 5 dBm=-77 dBm. The level of Cell 3 is -74 dBm, thus leading to reselection to Cell 3 after 15 s).

# 6.2.2.3.5 Test Requirements

- 1) In step c), after the UE has reselected Cell 1 from Cell 3 as indicated by random access requests, any random access requests on Cell 3 shall not occur within 4,5 s of the last random access request on Cell 1.
- 2) In step g), there shall be no access on Cell 3 within 34 s of decreasing the level of Cell 1.
- 3) In step j), the UE shall respond on Cell 1.
- 4) In step m), there shall be no response on Cell 3 within 11 s after the level of Cell 1 is changed back to -82 dBm.
- NOTE: The 11 s is derived from (t+15) s minimum cell reselection timer minus (t+2) s from the start of step m) up to the decrease of the level of Cell 1. A further 2 s are subtracted to cover for any uncertainty introduced by the random access process occurring after step g).