Source: **T1**

Title: **CR's to TS 34.123-1 v5.0.1 related to NON package 1 and 2 test cases**

Agenda item: **5.1.3**

Document for: **Approval**

This document contains 30 CRs to TS 34.123-1 v5.0.1 related to NON package 1 and 2 test cases. These CRs have been agreed by T1 and are put forward to TSG T for approval.

NOTE: TS 34.123-1 R99, Rel-4 and Rel-5 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 Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	261	-	Rel-5	Corrections to clause 6.1.1.5 for Package 3 (Idle Mode)	F	5.0.1	5.1.0	T1-020513	TEI	R99, Rel-4, Rel-5
34.123-1	262	-	Rel-5	Corrections to clause 6.1.1.1 and 6.1.1.2 (Idle Mode)	F	5.0.1	5.1.0	T1-020514	TEI	R99, Rel-4, Rel-5

CR related to corrections to MAC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	264	-	Rel-5	Correction to MAC clause 7.1.2.1	F	5.0.1	5.1.0	T1-020516	TEI	R99, Rel-4, Rel-5

CR related to corrections to RRC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	258	-	Rel-5	Corrections to Inter-frequency measurement test cases (8.4.1.24, 8.4.1.25, 8.4.1.26)	F	5.0.1	5.1.0	T1-020510	TEI	R99, Rel-4, Rel-5
34.123-1	259	-	Rel-5	Change to test case 8.4.1.31	F	5.0.1	5.1.0	T1-020511	TEI	R99, Rel-4, Rel-5
34.123-1	281	-	Rel-5	Corrections to reference compressed mode pattern	F	5.0.1	5.1.0	T1-020537	TEI	R99, Rel-4, Rel-5
34.123-1	272	-	Rel-5	Corrections to non-package1&2 clause 8.1	F	5.0.1	5.1.0	T1-020524	TEI	R99, Rel-4, Rel-5
34.123-1	278	-	Rel-5	Corrections to non-package 1&2 TCs in clause 8.3 of TS 34.123-1	F	5.0.1	5.1.0	T1-020534	TEI	R99, Rel-4, Rel-5
34.123-1	279	-	Rel-5	Corrections to non-package 1&2 TCs in clause 8.4 of TS 34.123-1 (merging T1S-020458 and	F	5.0.1	5.1.0	T1-020535	TEI	R99, Rel-4, Rel-5

				T1S-020363)						
34.123-1	273	-	Rel-5	CR to non-package1&2 clause 8.2 of TS34.123-1 (merging T1S-020469 and TC 8.2.6.21 and 8.2.6.22 of T1S-020407)	F	5.0.1	5.1.0	T1-020525	TEI	R99, Rel-4, Rel-5
34.123-1	307	-	Rel-5	Update of clause 8.3 for TDD mode	F	5.0.1	5.1.0	T1-020579	TEI, LCRTDD	R99, Rel-4, Rel-5

CR related to new RRC test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Work item	Releases affected
34.123-1	280	-	Rel-5	Additional test case for timing re-initialised inter-frequency handover	F	5.0.1	5.1.0	T1-020536	TEI	R99, Rel-4, Rel-5
34.123-1	298	-	Rel-5	Additional test cases in clause 8 of TS34.123-1 as T1S-020365rev1	F	5.0.1	5.1.0	T1-020559	TEI	R99, Rel-4, Rel-5

CR related to corrections to CC and PS NAS test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Workitem	Releases affected
34.123-1	300	-	Rel-5	Minor corrections and editorial modifications in clause 11.2 PDP context modification procedure	F	5.0.1	5.1.0	T1-020561	TEI	R99, Rel-4, Rel-5
34.123-1	301	-	Rel-5	Addition of ICS/IXIT statement in Secondary PDP context activation procedures	F	5.0.1	5.1.0	T1-020563	TEI	R99, Rel-4, Rel-5
34.123-1	302	-	Rel-5	Editorial corrections in test case 11.2.3.1.	F	5.0.1	5.1.0	T1-020564	TEI	R99, Rel-4, Rel-5
34.123-1	303	-	Rel-5	Test case 11.1.2: Correction in 'Test procedure'	F	5.0.1	5.1.0	T1-020565	TEI	R99, Rel-4, Rel-5

CR related to corrections to Radio Bearer test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Workitem	Releases affected
34.123-1	283	-	Rel-5	Removal of test cases for unidirectional streaming CS RABs above 64 kbps	F	5.0.1	5.1.0	T1-020543	TEI	R99, Rel-4, Rel-5
34.123-1	286	-	Rel-5	Corrections to package 3 RB test cases 14.2.43.1, 14.2.49.1 and 14.2.51.1.	F	5.0.1	5.1.0	T1-020547	TEI	R99, Rel-4, Rel-5
34.123-1	287	-	Rel-5	Addition of details for package 3 RB test cases	F	5.0.1	5.1.0	T1-020548	TEI	R99, Rel-4, Rel-5
34.123-1	288	-	Rel-5	Corrections to package 3 RB test cases 14.2.5a and 14.2.7a.	F	5.0.1	5.1.0	T1-020549	TEI	R99, Rel-4, Rel-5
34.123-1	289	-	Rel-5	Update of radio bearer test cases as per new RB test method	F	5.0.1	5.1.0	T1-020550	TEI	R99, Rel-4, Rel-5
34.123-1	290	-	Rel-5	Correction for test case 14.2.38.2	F	5.0.1	5.1.0	T1-020551	TEI	R99, Rel-4, Rel-5

CR related to new Radio Bearer test cases:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version New	Doc-2nd-Level	Workitem	Releases affected
34.123-1	282	-	Rel-5	Introduction of test cases for additional reference configuration on S-CCPCH and PRACH	F	5.0.1	5.1.0	T1-020542	TEI	R99, Rel-4, Rel-5
34.123-1	291	-	Rel-5	Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (40ms TTI).	F	5.0.1	5.1.0	T1-020552	TEI	R99, Rel-4, Rel-5
34.123-1	292	-	Rel-5	New Tests for Radio Bearers 14.2.38d and 14.2.57.	F	5.0.1	5.1.0	T1-020553	TEI	R99, Rel-4, Rel-5
34.123-1	293	-	Rel-5	New tests for radio bearers 23a, 38a, 38b, 38e, 51a & 51b	F	5.0.1	5.1.0	T1-020554	TEI	R99, Rel-4, Rel-5
34.123-1	308	-	Rel-5	New tests for radio bearers 38c, 56 and 58	F	5.0.1	5.1.0	T1-020584	TEI	R99, Rel-4, Rel-5

CR related to SMS test cases:

Spec	CR	Rev	Phase	Subject	Cat	Version - Current	Version -New	Doc-2nd-Level	Workitem	Remarks
34.123-1	305	-	Rel-5	Corrections to SMS test cases in clause 16.	F	5.0.1	5.1.0	T1-020567	TEI	R99, Rel-4, Rel-5
34.123-1	309	-	Rel-5	CR to section 16.1.6 & 16.2.6: Addition of test of short message type 0 (CS/PS) R99 and REL-4	F	5.0.1	5.1.0	T1-020608	TEI	R99, Rel-4

3GPP TSG–T1 Meeting #16
3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th July - 2nd Aug 2002

T1-020510
T1S-020513(rev. T1S-020389)

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 258** ⌘ ev - ⌘ Current version: 5.0.1 ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to Inter-frequency measurement test cases (8.4.1.24, 8.4.1.25, 8.4.1.26)
Source:	⌘	Motorola
Work item code:	⌘	TEI
Date:	⌘	19/07/2002
Category:	⌘	F
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	ICS/IXIT statement is applied to inter frequency measurement test cases. Physical Channel Reconfiguration procedure needs to be executed only if the UE requires compressed mode.
Summary of change:	⌘	Added the reference to ICS/IXIT statement for flag setting compressed mode requirement Updated the 'Test Procedure', so as to execute the reconfiguration procedure only if required. In expected sequence, in row 1, comment has been added to execute the reconfiguration procedure only if the compressed mode is required. Updated the contents of compressed mode relegated IE's, in specific message contents for Physical Channel Reconfiguration message
Consequences if not approved:	⌘	Test as specified may incorrectly fail a mobile.

Clauses affected:	⌘	8.4.1.24, 8.4.1.25 & 8.4.1.26
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Applicable to R99 and later releases

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm.
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~~" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ 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.

8.4.1.24 Measurement Control and Report: Inter-frequency measurement for event 2A

8.4.1.24.1 Definition

8.4.1.24.2 Conformance requirement

1. If any of the non- used frequencies quality estimate becomes better than the currently used frequency quality estimate, and event 2A has been ordered by UTRAN then this event shall trigger a report to be sent from the UE when the hysteresis and time to trigger conditions is fulfilled. The corresponding report contains (at least) the best primary CPICH on the non-used frequency that triggered the event.

Reference

3GPP TS 25.331 clause 14.2.1.1

8.4.1.24.3 Test Purpose

1.A To confirm that the UE sends MEASUREMENT REPORT message if event 2A is configured, and if any of the non- used frequencies quality estimate becomes better than the currently used frequency quality estimate.

1.B To confirm that the UE does not send MEASUREMENT REPORT message indicating event 2A if hysteresis condition is not fulfilled.

1.C To confirm that the UE does not send MEASUREMENT REPORT message indicating event 2A if time to trigger condition is not fulfilled.

8.4.1.24.4 Method of test

Initial Condition

System Simulator: 2 cells – The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.24-1. The table is found in "Test Procedure" clause.
UE: CS-DCCH_DCH_Initial (State 6-1) or PS-DCCH_DCH_ Initial (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.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.4.1.24-1 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", "T2", "T3", "T4" and "T5" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.24-1

Parameter	Unit	Cell 1						Cell 4					
		T0	T1	T2	T3	T4	T5	T0	T1	T2	T3	T4	T5
UTRA RF Channel Number		Ch. 1						Ch. 2					
CPICH Ec	dBm	-66	-66	-66	-66	-66	-66	-75	-60	-75	-60	-75	-60

The UE is initially in CELL_DCH state of cell 1. SS commands the UE to perform measurements of transmitted power using MEASUREMENT CONTROL message. This measurement is setup to confirm that while sending MEASUREMENT REPORT message, the UE sets IE "Additional measured results" correctly. If UE requires compressed mode , SS ~~then~~ performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. SS then commands the UE to perform Inter-frequency measurements and report event 2A by sending MEASUREMENT CONTROL message. In MEASUREMENT CONTROL message, IE "Hysteresis" is set to 10 dB and IE "Additional measurement list" is set to id of "UE Internal measurements" configured earlier. SS then configures itself according to the values in columns "T1" shown above. Even though quality estimate for Cell 4 has become better than that of Cell 1, event 2A will not be triggered since hysteresis condition is not fulfilled. SS then configures itself according to the values in columns "T2" shown above.
SS sends MEASUREMENT CONTROL message to modify parameter "Hysteresis" of Inter-frequency measurements to 1 dB. SS then raises power level of Cell 4 according to columns "T3" for short duration (less than 5 seconds), and again configures itself according to columns "T4" shown above. The UE will not send MEASUREMENT REPORT message because time to trigger condition is not fulfilled. SS then configures itself according to the values in columns "T5" shown above. The UE sends MEASUREMENT REPORT message reporting even 2A as well as measurement of transmitted power.
Important Note: Duration between time instant "T3" and "T4" (between steps 9 and 10 of expected sequence) must be less than 5 seconds.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	To setup UE Internal measurement. If Compressed Mode not required (refer ICS/IXIT) go to step 4
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2A.
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.24-1.
6				Check for 10 seconds, the UE shall not send MEASUREMENT REPORT message, as hysteresis condition is not fulfilled.
7				SS re-adjusts the downlink transmission power settings according to columns "T2" in table 8.4.1.24-1.
8	←		MEASUREMENT CONTROL	Modify hysteresis parameter for event 2A.
9				SS re-adjusts the downlink transmission power settings according to columns "T3" in table 8.4.1.24-1.
10				SS re-adjusts the downlink transmission power settings according to columns "T4" in table 8.4.1.24-1. This step should be completed within 5 seconds after completing step 9.
11				Check for 10 seconds, the UE shall not send MEASUREMENT REPORT message, as time to trigger condition is not fulfilled.
12				SS re-adjusts the downlink transmission power settings according to columns "T5" in table 8.4.1.24-1.
13	→		MEASUREMENT REPORT	This message should come at least 5 seconds later after changing power setting of Cell 4.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement identity	1
Measurement command	Setup
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- Measurement quantity	UE transmitted power
- Filter Coefficient	4
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE report criteria	No reporting
Measurement reporting mode	Not present
Additional measurements list	Not present
DPCH compressed mode status	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	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	Infinity~~62~~
- TGSN	~~8~~4
- TGL1	~~10~~7
- TGL2	~~5~~ Not Present
- TGD	~~15~~0
- TGPL1	~~35~~3
- TGPL2	~~35~~ Not Present
- RPP	Mode 0~~1~~
- ITP	Mode 10
- CHOICE UL/DL mode	~~DL~~ UL and DL or DL only depending on UE capability
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2 or Not present depending on UE capability
Downlink frame type	~~A~~B
- 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 CONTROL (Step 4)

Information Element	Value/Remark
Measurement identity	2
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Id of Cell 4
- Frequency Information	Frequency of Cell 4
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code of Cell 4
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	0
- Frequency quality estimate quantity	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRAN carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Measurement validity	CELL_DCH state
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2A
- Used frequency threshold	-72 dBm
- Used frequency W	0
- Hysteresis Inter-frequency	10 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non-used frequency parameter list	
- Non-used frequency threshold	-72 dBm
- Non-used frequency W	0
Measurement reporting mode	
- Measurement reporting transfer mode	Acknowledged mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	
- Measurement identity	1
DPCH compressed mode status info	Not present

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement identity	2
Measurement command	Modify
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	Not present
- Cell for measurement	Not present
- Intra-frequency measurement quantity	Not present
- Inter-frequency reporting quantity	Not present
- Measurement validity	Not present
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2A
- Used frequency threshold	-72 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non-used frequency parameter list	
- Non-used frequency threshold	-72 dBm
- Non-used frequency W	0
Measurement reporting mode	Not present
Additional measurement list	Not present
DPCH compressed mode status info	Not present

MEASUREMENT REPORT (Step 13)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 2
Measured results	Check to see if it is absent
Measured results on RACH	Check to see if it is absent
Additional measured results	
- Measured results	UE internal measured results
- UE transmitted power	Check to see if it is present
- UE RX TX report entry list	Check to see if it is absent
Event results	Inter frequency event results,
- Event ID	2A
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

8.4.1.24.5 Test Requirement

1.A In step 13 the UE shall send MEASUREMENT REPORT message indicating event 2A. IE 'Cell measurement event results' in MEASUREMENT REPORT message shall contain frequency information and primary scrambling code of Cell 4.

1.B In step 6, the UE shall not send MEASUREMENT REPORT message.

1.C In step 11, the UE shall not send MEASUREMENT REPORT message.

8.4.1.25 Measurement Control and Report: Inter-frequency measurement for events 2B and 2E

8.4.1.25.1 Definition

8.4.1.25.2 Conformance requirement

1. When event 2E is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of a non-used frequency is below the value of the IE "Threshold non-used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the non-used frequency.

2. When event 2B is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the estimated quality of a non-used frequency is above the value of the IE "Threshold non-used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the non-used frequency that triggered the event.

Reference

3GPP TS 25.331 clause 14.2.1.2, 14.2.1.5.

8.4.1.25.3 Test Purpose

1. To confirm that the UE sends MEASUREMENT REPORT message when event 2E is configured and the estimated quality of a non-used frequency is below the value of the IE "Threshold non-used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the non-used frequency that triggered the event.

2. To confirm that the UE sends MEASUREMENT REPORT message when event 2B is configured and estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the estimated quality of a non-used frequency is above the value of the IE "Threshold non-used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the non-used frequency that triggered the event.

8.4.1.25.4 Method of test

Initial Condition

System Simulator: 2 cells – The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.24-1. The table is found in "Test Procedure" clause.
UE: CS-DCCH_DCH_Initial (State 6-1) or PS-DCCH_DCH_ Initial (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.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.4.1.25-1 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" and "T2" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.25-1

Parameter	Unit	Cell 1			Cell 4		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 2		
CPICH Ec	dBm	-60	-63	-74	-74	-60	-60

The UE is initially in CELL_DCH state of cell 1. SS commands the UE to perform Inter-frequency measurements and report event 2B and event 2E by sending MEASUREMENT CONTROL message. If UE requires compressed mode, SS ~~then~~ performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. Since quality estimate of non-used frequency is below threshold, the UE sends MEASUREMENT REPORT message indicating event 2E. SS then configures itself according to the values in columns "T1" shown above. Now quality estimate of used and non-used frequency is above threshold and hence neither event 2B nor event 2E will be triggered. SS then configures itself according to the values in columns "T2" shown above. Quality estimate for used frequency is now below threshold, while that of non-used frequency is above threshold, the UE sends MEASUREMENT REPORT message to report event 2B.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2B and 2E. If Compressed Mode not required (refer ICS/IXIT) go to step 4
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	→		MEASUREMENT REPORT	The UE shall report event 2E. Time duration between activation of compressed mode and reception of this message should be at least 5 seconds.
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.25-1.
6				Check for 10 seconds the UE shall not send measurement report message.
7				SS re-adjusts the downlink transmission power settings according to columns "T2" in table 8.4.1.25-1.
8	→		MEASUREMENT REPORT	The UE shall report event 2B. Time duration between changing power levels according to columns "T2" and reception of this message should be at least 5 seconds.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement identity	4
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Id of Cell 4
- Frequency Information	Frequency of Cell 4
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code of Cell 4
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	4
- Frequency quality estimate quantity	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRAN Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Measurement validity	Not present
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2E
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non used frequency parameter list	
- Non used frequency threshold	-15 dBm
- Non used frequency W	0
- Inter-frequency event identity	2B
- Used frequency threshold	-16 dBm
- Used frequency W	4
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Within monitored set non used frequency
- Maximum number of reporting cells	1
- Non used frequency parameter list	
- Non used frequency threshold	-15 dBm
- Non used frequency W	0
Measurement reporting mode	
- Measurement reporting transfer mode	Unacknowledged Mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	Not present
DPCH compressed mode status info	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	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~~ Infinity
- TGSN	~~8~~4
- TGL1	~~10~~7
- TGL2	Not Present ~~5~~
- TGD	~~15~~ 0
- TGPL1	~~35~~3
- TGPL2	~~35~~Not Present
- RPP	Mode ~~1~~0
- ITP	Mode ~~1~~0
- CHOICE UL/DL mode	~~DL~~ UL and DL or DL only depending on UE capability
- ~~-~~Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2 or Not present depending on UE capability
- Downlink frame type	A
- 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 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 4
Measured results	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	Inter frequency event results,
- Event ID	2E
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

MEASUREMENT REPORT (Step 8)

Information Element	Value/Remarks
Measurement identity	4
Measured results	Inter-frequency measured results
- Frequency information	Frequency of Cell 4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency 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
- Mode Specific Info	FDD
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code for cell 4
- CPICH Ec/No	Check to see if it is present
- 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
Additional measured results	Check to see if it is absent
Event results	Inter frequency event results,
- Event ID	2B
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

8.4.1.25.5 Test Requirement

1. In step 4 the UE shall send MEASUREMENT REPORT message indicating event 2E. IE "Cell measurement event results" in this message shall contain frequency information and primary scrambling code of Cell 4.

2. In step 8 the UE shall send MEASUREMENT REPORT message indicating event 2B. IE "Cell measurement event results" in this message shall contain frequency information and primary scrambling code of Cell 4.

8.4.1.26 Measurement Control and Report: Inter-frequency measurement for events 2D and 2F

8.4.1.26.1 Definition

8.4.1.26.2 Conformance requirement

1. When event 2F is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is above the value of

the IE "Threshold used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the used frequency.

2. When event 2D is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the used frequency.

Reference

3GPP TS 25.331 clause 14.2.1.4, 14.2.1.6

8.4.1.26.3 Test Purpose

1. To confirm that the UE sends MEASUREMENT REPORT message when event 2F is configured and estimated quality of the currently used frequency is above the value of the IE "Threshold used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the used frequency.

2. To confirm that the UE sends MEASUREMENT REPORT message when event 2D is configured and estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the used frequency.

8.4.1.26.4 Method of test

Initial Condition

System Simulator: 1 cells – The initial configurations of the cell in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.26-1. The table is found in "Test Procedure" clause.
UE: CS-DCCH_DCH_Initial (State 6-1) or PS-DCCH_DCH_ Initial (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.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

Table 8.4.1.26-1 illustrates the downlink power to be applied for the cell at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" is to be applied subsequently. The exact instant on which these values shall be applied is described in the text in this clause.

Table 8.4.1.26-1

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm	-60	-72

The UE is initially in CELL_DCH state of cell 1. If UE requires compressed mode, SS performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. SS commands the UE to perform Inter-frequency measurements

and report event 2D and/or event 2F by sending MEASUREMENT CONTROL message. Since quality estimate of used frequency is above threshold, the UE sends MEASUREMENT REPORT message indicating event 2F. SS then configures itself according to the values in columns "T1" shown above. Quality estimate for used frequency is now below threshold, the UE sends MEASUREMENT REPORT message to report it.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				If Compressed Mode not required (refer ICS/IXIT) go to step 4
~~1~~2	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
~~2~~3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
~~3~~4	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2D and 2F.
~~4~~5	→		MEASUREMENT REPORT	The UE shall report event 2F
~~5~~6				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.26-1.
~~6~~7	→		MEASUREMENT REPORT	The UE shall report event 2D.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	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~~Infinity
- TGSN	~~8~~4
- TGL1	~~10~~7
- TGL2	~~5~~Not Present
- TGD	~~15~~0
- TGPL1	~~35~~3
- TGPL2	~~35~~Not Present
- RPP	Mode ~~1~~0
- ITP	Mode ~~1~~0
- CHOICE UL/DL mode	UL and DL or DL only depending on UE capability ~~DL~~
~~-~~ - Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2 or Not present depending on UE capability
- Downlink frame type	A
- 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 CONTROL (Step 3)

Information Element	Value/Remark
Measurement identity	10
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Any valid identity other than that of Cell 1
- Frequency Information	Any valid frequency other than that of Cell 1
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Any value of Primary scrambling code
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	4
- Frequency quality estimate quantity	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRAN Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Measurement validity	CELL_DCH state
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2D
- Used frequency threshold	-66 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Inter-frequency event identity	2F
- Used frequency threshold	-66 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
Measurement reporting mode	
- Measurement reporting transfer mode	Unacknowledged Mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	Not present
DPCH compressed mode status info	Not present

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured results	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	Inter frequency event results,
- Event ID	2F
- Cell measurement event results	
- Frequency info	Frequency of Cell 1
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 1

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured results	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	Inter frequency event results,
- Event ID	2D
- Cell measurement event results	
- Frequency info	Frequency of Cell 1
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 1

8.4.1.26.5 Test Requirement

1. In step 4 the UE shall send MEASUREMENT REPORT message indicating event 2F. IE 'Cell measurement event results' in this message shall contain frequency information and primary scrambling code of Cell 1.

2. In step 6 the UE shall send MEASUREMENT REPORT message indicating event 2D. IE 'Cell measurement event results' in this message shall contain frequency information and primary scrambling code of Cell 1.

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 2nd August 2002

Tdoc T1-020511

3GPP TSG-T1 SIG Meeting #24
Yokohama, Japan, 29th – 31st July 2002

Tdoc T1S-020514

CR-Form-v5

CHANGE REQUEST

⌘ **34.123-1** **CR** **259** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Change to test case 8.4.1.31
Source:	⌘	Nokia, MCI
Work item code:	⌘	TEI
Date:	⌘	2002-07-22
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Compressed mode pattern changed as is proposed in document T1S-020373
Summary of change:	⌘	TGPL1 parameters modified in PHYSICAL CHANNEL RECONFIGURATION message used in Step 2 of the test case. Editorial changes: • The format of "Specific Message Content" tables changed • "CHOISE" replaced with "CHOICE" Updated after comments received in T1 SIG#24: • Test Procedure updated • ICS/IXIT statement added • Changes for test case 8.4.1.31 from MCI contribution T1S-020363 merged into this CR o SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test. o The value of IE "TGPS Status Flag" are renamed from 'active' to 'activate' and 'inactive' to 'deactivate'.
Consequences if not approved:	⌘	Compressed mode patterns are different than those that are used in the core specifications 25.101 and 25.133.

Clauses affected:	⌘	8.4.1.31.4		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications	⌘	

	☐ O&M Specifications	
Other comments:	⌘	Applicable to R99 and later releases.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

MEASUREMENT REPORT (Step 4 and step 5)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Traffic volume measured results list"
- Traffic volume measurement results	
- RB identity	Check that value is correct
- RLC buffers payload	Check that value is reasonable
Measured Results on RACH	Not checked
Additional Measured results	Not checked
Event Results	
- Uplink transport channel type causing the event	Check to see if set to "DCH"
- UL transport channel identity	Check to see if set to "1"
- Traffic volume event identity	Check to see if set to "4a"

MEASUREMENT REPORT (Step 6 and step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to "Traffic volume measured results list"
- Traffic volume measurement results	
- RB identity	Check that value is correct
- RLC buffers payload	Check that value is reasonable
Measured Results on RACH	Not checked
Additional Measured results	Not checked
Event Results	
- Uplink transport channel type causing the event	Check to see if set to "DCH"
- UL transport channel identity	Check to see if set to "1"
- Traffic volume event identity	Check to see if set to "4b"

8.4.1.30.5 Test Requirement

In steps 4, 5, 6 and 7 UE sends RRC: MEASUREMENT REPORT with correct measurement identity indication. RB identity and RLC buffers payload has correct values. Measurement identity, transport channel type, transport channel identity and event identity has to match with set values.

<Start of modified section>

8.4.1.31 Measurement Control and Report: Inter-RAT measurement in CELL_DCH state.

8.4.1.31.1 Definition

8.4.1.31.2 Conformance requirement

The UE shall perform GSM RSSI measurements in the gaps of compressed mode pattern sequence specified for GSM RSSI measurement purpose.

The UE shall perform GSM Initial BSIC identification in compressed mode pattern sequence specified for Initial BSIC identification measurement purpose.

Reference

3GPP TS 25.331, clause 14.3.2.

8.4.1.31.3 Test Purpose

Purpose of this test is to verify that UE is capable to perform GSM RSSI and GSM Initial BSIC identification measurements in compressed mode.

8.4.1.31.4 Method of test

Initial Condition

System Simulator: 1 UTRAN FDD cell and 2 GSM cells.

Parameter	Unit	Cell 1 (GSM)	Cell 2 (GSM)
Test Channel	#	1	2
RF Signal Level	dBm	-80	-85
BCCH ARFCN	#	1	7
CELL identity	#	0	1
BSIC	#	BSIC1	BSIC2

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

System Information Block type 11 nor 12 does not include Inter-RAT measurement system information.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. SS provides compressed mode pattern sequence parameters to UE by using physical channel reconfiguration procedure. Depending on UE's measurement capability uplink and/or downlink compressed mode is requested. If required ~~C~~compressed mode method is SF/2 with 7 slot gap in single frame. Two normal frames is between gapped frames. First RRC: MEASUREMENT CONTROL message is used to provide measurement control parameters (GSM RSSI) to UE and to start compressed mode for measurement. UE replies according to request by sending RRC: MEASUREMENT REPORT messages periodically to SS. Reporting period is 1000 ms. After two RRC: MEASUREMENT REPORT messages, SS sends second RRC: MEASUREMENT CONTROL message to start GSM Initial BSIC identification measurement. UE replies similarly as in GSM RSSI measurement case. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS provides GSM RSSI measurement control parameters to UE. Compressed mode for GSM RSSI measurement is started.
5	→		MEASUREMENT REPORT	UE reports measurement results of GSM RSSI measurement to SS.
6	→		MEASUREMENT REPORT	Next periodical measurement report.
7	←		MEASUREMENT CONTROL	SS provides GSM Initial BSIC identification measurement control parameters to UE. Compressed mode for GSM Intial BSIC identification measurement is started.
8	→		MEASUREMENT REPORT	UE reports measurement results of GSM Initial BSIC identification measurement to SS.
9	→		MEASUREMENT REPORT	Next periodical measurement report.
10	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	~~3~~12
- TGPL2	Not present
- RPP	Mode 1
- ITP	Mode 1
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Initial BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	~~3~~8
- TGPL2	Not present
- RPP	Mode 1
- ITP	Mode 1
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	128
- T Reconfirm abort	Not Present

MEASUREMENT CONTROL (Step 4)

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 Mode	Periodical reporting
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
~~CHOISE~~CHOICE Inter-RAT Cell Removal	Remove no inter-RAT cells
- inter-RAT cell id	0
~~CHOISE~~CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	1
~~CHOISE~~CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not present
~~CHOISE~~CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
UTRAN estimated quality	FALSE
~~CHOISE~~CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
~~CHOISE~~CHOICE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
~~CHOISE~~CHOICE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS status flag	Activate~~active~~
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256
- TGPSI	2
- TGPS status flag	Activate~~inactive~~

- TGCFN	Not present

MEASUREMENT REPORT (Step 5 and step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- ~~CHOISE~~CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
~~CHOISE~~CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to "0"
- Observed time difference to GSM cell	Check that not present
- GSM carrier RSSI	Check that measurement result is reasonable
~~CHOISE~~CHOICE BSIC	Non verified BSIC
- BCCH ARFCN	Check that is set to "7"
- Observed time difference to GSM cell	Check that not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

MEASUREMENT CONTROL (Step 7)

Information Element	Value/Remark
Measurement Identity	15
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not present
~~CHOISE~~CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
UTRAN estimated quality	FALSE
~~CHOISE~~CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- Reporting cell status	
~~CHOISE~~CHOICE reported cell	
- Reported cells within active set or within virtual active set or of the other RAT	
- Maximum number of reported cells	6
~~CHOISE~~CHOICE report criteria	
- Periodical reporting criteria	
- Amount of reporting	infinity
- Reporting interval	1000
Physical channel information elements	
- DPCH compressed mode status info	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	1
- TGPS status flag	Deactivate~~inactive~~
- TGCFN	Not present
- TGPSI	2
- TGPS status flag	Activate~~active~~
- TGCFN	(Current CFN + (256 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 8 and 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-RAT measured results list"
- Inter-RAT measured result list	
- ~~CHOISE~~CHOICE system	GSM
- Measured GSM cells	
- GSM carrier RSSI	Check to see if present
~~CHOISE~~CHOICE BSIC	Verified BSIC
- Inter-RAT cell id	Check that is set to "0"
- Observed time difference to GSM cell	Check that not present
- GSM carrier RSSI	Check that measurement result is reasonable
~~CHOISE~~CHOICE BSIC	Verified BSIC
- Inter-RAT cell id	Check that is set to "1"
- Observed time difference to GSM cell	Check that not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that not present

8.4.1.31.5 Test Requirement

In step 5 and step 6 UE reports correctly GSM RSSI values.

In step 8 and step 9 UE reports correctly BSIC values.

Reporting period is the requested one.

<End of modified section>

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29 July – 2 August 2002

Tdoc ⌘ T1-020513

3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29-31 July 2002

Tdoc ⌘ T1S-020485

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **261** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 R5; Corrections to clause 6.1.1.5 for Package 3 (Idle Mode)
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-28
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	To not cause SS to fail a good UE due to SS tolerances then the transmission power level CPICH_Ec between cells should differ at least 5 dBm/3.84MHz.
Summary of change:	⌘	Changed power levels for CPICH_Ec for FDD and P-CCPCH_RSCP for TDD to be 5 dBm.
Consequences if not approved:	⌘	Test case could fail a good UE.

Clauses affected:	⌘	6.1.1.5

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	Affects R99, R4 and R5 UE test cases.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
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 ftp://ftp.3gpp.org/specs/ 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>

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.

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_Ec [dBm/3.84 MHz] (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	-94~~98~~	-83~~87~~	No	4	PLMN 9
Cell 5	-99~~101~~	-88~~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
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwAcT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwAcT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	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.

l) 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 l), the UE shall inform that only limited service is possible.

<End of modified section>

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Yokohama, Japan, 29 July – 2 August 2002

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3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29-31 July 2002

Tdoc ⌘ T1S-020486

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **262** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 R5; Corrections to clause 6.1.1.1 and 6.1.1.2 (Idle Mode)
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-28
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	To not cause SS to fail a good UE due to SS tolerances then the transmission power level CPICH_Ec between cells should differ at least 5 dBm/3.84MHz.
Summary of change:	⌘	6.1.1.1.4 and 6.1.1.2.4: Changed power levels for CPICH_Ec for FDD and P-CCPCH_RSCP for TDD to be 5 dBm.
Consequences if not approved:	⌘	Test case could fail a good UE.

Clauses affected:	⌘	6.1.1.1 and 6.1.1.2
Other specs affected:	⌘	Y / N ☐ / ☒ Other core specifications ☐ / ☒ Test specifications ☐ / ☒ O&M Specifications
	⌘	
Other comments:	⌘	Affects R99, R4 and R5 UE test cases.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
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 ftp://ftp.3gpp.org/specs/ 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>

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 levels are from table 6.3. (FDD).

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_ Ec [dBm/3.84 MHz] (FDD)	P-CCPCH_ RSCP [dBm] (TDD)	Test Channel	PLMN
Cell 1	-6072	-5061	1	PLMN 1
Cell 2	-6575	-5564	2	PLMN 2
Cell 3	-7078	-6067	3	PLMN 3
Cell 4	-7581	-6570	4	PLMN 4
Cell 5	-8084	-7073	5	PLMN 5
Cell 6	-8587	-7576	6	PLMN 6

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwAcT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwAcT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	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.

l) 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.

All Radio Access Technology USIM fields and cells are UTRAN.

Cell	CPICH_Ec [dBm/3.84 MHz] (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	-9498	-8387	No	4	PLMN 9
Cell 5	-99101	-8890	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
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwAcT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwAcT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	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.

l) 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 o), 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.

<End of modified section>

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29th July – 2 August 2002

Tdoc ⌘ T1-020516

3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, July 29th-31st, 2002

Tdoc T1S-020444

CR-Form-v5.1

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **264** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction to MAC clause 7.1.2.1
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-21
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	To correct implementation of CR183 to TS 34.123-1 V4.2.0. Test case to be marked as "Void" should be 7.1.2.1.1 instead of 7.1.2.1.2.
Summary of change:	⌘	• Marked 7.1.2.1.1 as "Void" • Re-inserted placeholder for test case 7.1.2.1.2 according to V4.2.0 of ts 34.123-1.
Consequences if not approved:	⌘	Test specifications not according to agreed CR

Clauses affected:	⌘	7.1.2.1
Other specs Affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Affects R99, REL-4 and REL-5

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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 RACH/FACH procedures

7.1.2.1 Selection and control of Power Level

7.1.2.1.1~~2~~ Void

NOTE Test case "Selection and control of Power Level (FDD)" has been removed as the test purpose is implicitely tested by radio resource management test cases in TS 34.121 clause 8.4.2.1 and 8.4.2.2.

7.1.2.1.2 Selection and control of Power Level (3,84 Mcps TDD option)

(FFS)

7.1.2.1.3 Selection and control of Power Level (1,28 Mcps TDD option)

7.1.2.1.3.1 Definition and applicability

All TDD 1,28 Mcps UE

7.1.2.1.3.2 Conformance requirement

1. The UE sets the initial preamble transmit power to the value P_{UpPCH} given in clause 8.5.7 of TS 25.331.
2. If the UE does not receive an acknowledgement on the FPACH then the UE increases the preamble transmission power by the specified increment Pwr_{ramp}.
3. The UE ceases power ramping after the maximum number of pre-amble increments permitted has been completed.
4. Where the UE is permitted to complete a number of power ramping cycles, the UE returns to the initial transmit power (no increment applied) at the start of each cycle. The number of cycles completed before the UE ceases transmission should equal the maximum number of permitted power ramping cycles.
5. The UE does not transmit on PRACH resources.

Reference(s)

TS 25.224 clause 5.6.

TS 25.331 clause 8.5.7.

TS 25.321 clause 11.2.3.

7.1.2.1.3.3 Test Purpose

To verify that:

- the UE selects the correct preamble transmit powers during a power ramp cycle, taking account of the desired UpPCH receive power and power ramp step specified in the BCH layer 3 message SIB 5,
- the number of steps in a power ramp cycle and the number of power ramp cycles completed when no reply is received from the UTRAN is equal to the values specified for these parameters in the BCH layer 3 messages SIB 5,
- the UE does not transmit on the PRACH resources specified in the BCH message SIB 5.

7.1.2.1.3.4 Method of test

Initial conditions

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

Related ICS/IXT Statement(s)

TBD

Foreseen Final State of the UE

The same as the initial condition.

Test procedure

a) The SS pages the UE to initiate the RACH access procedure;

b) The SS does not respond to UpPCH transmissions received from the UE;

c) The SS measures the power level of each UpPCH code that the UE transmits;

d) The SS monitors the PRACH resources to ensure that no transmissions are received from the UE;

e) The procedure is continued until the maximum permitted power ramping cycles, and within each power ramping cycle, the maximum number of UpPCH transmissions have been made. The UpPCH and PRACH channels are then continued for time, tbd, to ensure that no further transmissions are made by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<–		PAGE	
2	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes}$
3	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + Pwr_{ramp}$
4			……	
5	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + n.\ Pwr_{ramp}$
6	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes}$
7	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + Pwr_{ramp}$
8			……	
9	->		UpPCH	$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + n.\ Pwr_{ramp}$
10			Wait for time-period	

7.1.2.1.3.5 Test requirements

The power of the first UpPCH transmission should equal $P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes}$, subsequent transmissions should increase in power by Pwr_{ramp} until the maximum permitted number of steps in a power ramping cycle has been completed. The power ramping cycle should be repeated Mmax times before the UE ceases to transmit. The UE should not transmit on any PRACH resources.

3GPP TSG- T1 Meeting #16
Yokohama, Japan, 2nd Aug 2002

T1-020524

3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th- 31st July 2002

Tdoc T1S-020360

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 272** ⌘ ev - ⌘ Current version: 5.0.1 ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to non-package1&2 clause 8.1
Source:	⌘	Panasonic
Work item code:	⌘	TEI
Date:	⌘	1 July 2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘

1. Update Conformance Requirement according to core specification 25.331.
2. Editorial changes.
3. Add generic procedure at the end of some test cases to verify the final state of the UE.
4. IE “Access Class Barred list” is not needed in SIB 4.
5. TC8.1.2.10 is moved from TC8.2.1.21 because of wrong location.

Summary of change: ⌘

In clause 8.1.2.3
- Conformance Requirement is updated.
- SS called generic procedure C.1 to check that UE is in idle mode at the end of test

In clause 8.1.2.4
- Conformance Requirement and Reference are updated.

In clause 8.1.2.5
- Conformance Requirement and Reference are updated.
- SS called generic procedure C.1 to check that UE is in idle mode at the end of test

In clause 8.1.2.6
- Conformance Requirement and Reference are updated.

In clause 8.1.3.2
- Conformance Requirement and Reference are updated.

		In clause 8.1.3.4 • Conformance Requirement and Reference are updated. In clause 8.1.3.5 • Conformance Requirement and Reference are updated. In clause 8.1.5.2 • Conformance Requirement is updated. In clause 8.1.5.3 • Conformance Requirement is updated. In clause 8.1.5.5 • Conformance Requirement is updated. In clause 8.1.6.1 • Conformance Requirement is updated. In clause 8.1.6.2 • Conformance Requirement is updated. In clause 8.1.8.1 • Conformance Requirement is updated. In clause 8.1.8.2 • Conformance Requirement is updated. In clause 8.1.2.10 • This is moved from TC8.2.1.21.
Consequences if not approved:	⌘	If changes are not approved, UE might not be properly tested.

Clauses affected:	⌘	Clause 8.1.2.3, 8.1.2.4,8.1.2.5,8.1.2.6,8.1.3.2,8.1.3.4,8.1.3.5,8.1.5.2,8.1.5.3,8.1.5.5,8.1.6.1,8.1.6.2,8.1.8.1,8.1.8.2,8.1.2.10		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.1.2.3 RRC Connection Establishment: Failure (V300 is greater than N300)

8.1.2.3.1 Definition

8.1.2.3.2 Conformance requirement

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists).

Upon initiation of the procedure, the UE shall:

1> set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to TS 25.331 subclause 8.5.1;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to TS 25.304;

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

1> set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

…

1> if the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

1> if cell re-selection or expiry of timer T300 occurs:

the UE shall:

1> check the value of V300; and

2> if V300 is equal to or smaller than N300:

…

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

…

3> submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message.

…

2> if V300 is greater than N300:

3> enter idle mode.

3> consider the procedure to be unsuccessful;

3> Other actions the UE shall perform when entering idle mode from connected mode are specified in TS 25.331 subclause 8.5.2;

3> the procedure ends.

~~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" 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. SS calls for generic procedure C.1 to check that UE is in Idle Mode 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 call.
2	→		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. SS waits for 5s.~~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.~~
6	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it 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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

1> if the IE "wait time" <> '0'; and

1> if the IE "frequency info" is present and:

2> if V300 is equal to or smaller than N300:

3> initiate cell selection on the designated UTRA carrier;

3> after having selected and camped on a cell:

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> transmit an RRC CONNECTION REQUEST message on the uplink CCCH;

4> reset counter V300;

4> start timer T300 when the MAC layer indicates success or failure in transmitting the message;

4> disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;

3> if a cell selection on the designated carrier fails:

4> wait for the time stated in the IE "wait time";

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

4> increment counter V300;

4> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…

1> If the IEs "frequency info" not present……:

2> if V300 is equal to or smaller than N300:

3> wait at least the time stated in the IE "wait time";

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.2;

3> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

3> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…~~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 8.1.3.9.

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.

Table 8.1.2.4

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

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		→	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		←	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	Same as the IMSI stored in the TEST USIM card, or the registered TMSI or P-TMSI
Establishment Cause	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
UARFCN downlink (Nd)	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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

1> if the IE "wait time" <> '0'; and

1> if the IE "frequency info" is present and:

2> if V300 is equal to or smaller than N300:

3> initiate cell selection on the designated UTRA carrier;

3> after having selected and camped on a cell:

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the contents of the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> transmit an RRC CONNECTION REQUEST message on the uplink CCCH;

4> reset counter V300;

4> start timer T300 when the MAC layer indicates success or failure in transmitting the message;

4> disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;

3> if a cell selection on the designated carrier fails:

4> wait for the time stated in the IE "wait time";

4> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

4> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

4> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

4> then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

4> increment counter V300;

4> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…

1> If the IEs "frequency info" not present……:

2> if V300 is equal to or smaller than N300:

3> wait at least the time stated in the IE "wait time";

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.2;

3> perform the mapping of the Access Class to an Access Service Class as specified in TS 25.331 subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

3> submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message;

2> if V300 is greater than N300:

3> enter idle mode;

3> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

3> consider the RRC establishment procedure to be unsuccessful;

3> the procedure ends.

…~~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 8.1.3.9.

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. SS calls for generic procedure C.1 to check that UE is in Idle Mode 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	→		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. SS waits for 5s. ~~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.~~
7	←→		CALL C.1	If the test result of C.1 indicates that UE is in Idle Mode state, the test passes, otherwise it 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-TMSI
Establishment Cause	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

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

if expiry of timer T300 occurs:

the UE shall:

1> check the value of V300; and

2> if V300 is equal to or smaller than N300:

3> set the IEs in the RRC CONNECTION REQUEST message according to TS 25.331 subclause 8.1.3.3;

3> submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;

3> increment counter V300;

3> restart timer T300 when the MAC layer indicates success or failure to transmit the message.

2> if V300 is greater than N300:

…

~~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 8.1.3.9.

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	→		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	→		RRC CONNECTION REQUEST	UE shall send this message after T300 expires.
4	←		RRC CONNECTION REJECT	
5	→		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
Establishment Cause	Checked to see if set to one of the supported originating call types
Protocol Error Indicator	Checked to see if set to "FALSE"
Measured Results on RACH	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 REQUEST message (step 1) but with a different value.

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 CONNECTION REQUEST message (step 5)
Reject Cause	Congestion
Wait time	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.

8.1.2.8 Void

8.1.2.10 RRC connection establishment in CELL_DCH on another frequency

8.1.2.10.1 Definition

8.1.2.10.2 Conformance requirement

1. The UE shall, in the transmitted RRC CONNECTION REQUEST message:

   - set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;

   - set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

   - set the IE "Protocol error indicator" to the value of the variable PROTOCOL_ERROR_INDICATOR;

   - include a measurement report in the IE "Measured results on RACH", as specified in 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.

2. The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

   If the values are identical, the UE shall:

   - perform the physical layer synchronization procedure

Reference

3GPP TS 25.331 clauses 8.3.1.3, 8.3.1.6

8.1.2.10.3 Test Purpose

To confirm that the UE manages to synchronize on another frequency when so required by UTRAN in the RRC CONNECTION SET UP message.

8.1.2.10.4 Method of test

Initial condition

System simulator: 2 cells – Cell 1 on UARFCN 1 and Cell 2 on UARFCN 2.

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 state shall be "Registered idle mode on CS/PS" (state 7).

Test procedure

The UE is initially in idle mode and is camping on cell 1. SIB 11 is broadcast in cell 1, and the parameters used are as specified below.

SS prompts the operator to make an outgoing call of a supported traffic class. The UE shall transmit an RRC CONNECTION REQUEST on the CCCH, and SS replies with the RRC CONNECTION SETUP, in which the IEs are set as described below. The UE shall send the RRC CONNECTION SETUP COMPLETE back to SS in cell 2 on the DPCH described in the RRC CONNECTION SET UP messsage received from the SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	By outgoing call operation
2	←		RRC CONNECTION SETUP	
3				The UE configures the layer 2 and layer 1.
4	→		RRC CONNECTION SETUP COMPLETE	This message is sent to on the frequency indicated in the RRC CONNECTION SETUP message
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content

All messages indicated below shall use the same content as described in the default message content, with the following exceptions:

System Information Block type 11

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency info list	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	256 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection	Not present
- Cell for measurement	Not present
- Intra-frequency measurement quantity	Not present
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current Cell
- Reporting information for state CELL_DCH	Not present

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
Measured results on RACH	Check that the Ec/No for the cell 1 is reported.

RRC CONNECTION SETUP (Step 3)

Use the same message type found in clause 9 of TS 34.108, with the following exception.

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	UARFCN uplink of cell 2
- UARFCN downlink(Nd)	UARFCN downlink of cell 2

8.1.2.10.5 Test requirement

In step 4, the UE shall send the RRC CONNECTION SETUP COMPLETE message on the frequency indicated in the RRC CONNECTION SETUP message.

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

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; and

1> if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI; or

1> if the message is received on DCCH:

the UE shall:

…

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS;

3> submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using AM RLC on the DCCH to the UTRAN.

3> when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:

4> release all its radio resources; and

4> indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers; and

4> clear any entry for the RRC CONNECTION RELEASE message in the tables "Accepted transactions" and "Rejected transactions" in the variable TRANSACTIONS;

4> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

4> clear the variable ESTABLISHED_RABS;

4> pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;

4> enter idle mode;

4> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode.

3> and the procedure ends.

…

~~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 8.1.4.3.

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.

8.1.3.4 RRC Connection Release in CELL_FACH state: Failure

8.1.3.4.1 Definition

8.1.3.4.2 Conformance requirement

When acknowledged mode was used and RLC does not succeed in transmitting the RRC CONNECTION RELEASE COMPLETE message, the UE shall:

1> release all its radio resources;

1> indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;

1> clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> clear the variable ESTABLISHED_RABS;

1> enter idle mode;

1> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode;

1> and the procedure ends.

~~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 8.1.4.9.

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	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message 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

If the RRC CONNECTION RELEASE message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, and if the "protocol error cause" in PROTOCOL_ERROR_INFORMATION is set to any cause value except "ASN.1 violation or encoding error", the UE shall perform procedure specific error handling as follows:

The UE shall:

1> ignore any IE(s) causing the error but treat the rest of the RRC CONNECTION RELEASE message as normal according to TS 25.331 subclause 8.1.4.3, with an addition of the following actions:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Rejected transactions" in the variable TRANSACTIONS;

3> include the IE "Error indication" in the RRC CONNECTION RELEASE COMPLETE message with:

4> the IE "Failure cause" set to the cause value "Protocol error"; and

4> the IE "Protocol error information" set to the value of the variable PROTOCOL_ERROR_INFORMATION.

~~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.~~

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 STATUS message that includes the appropriate error cause on the uplink DCCH.

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).

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.SS transmits an invalid RRC CONNECTION RELEASE message on the DCCH to request to disconnect the RRC connection. The UE shall transmit an RRC STATUS message on the uplink DCCH, which includes the IE "Protocol Error Information". This IE shall contain "Protocol error information" IE which is set to "ASN.1 violation or encoding error". 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	Direction		Message	Comment
	UE	SS		
1	←		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	↔		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	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.	
4	↔		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				SS waits for 5 minutes (for the expiry of T305 timer).

6	→	CELL UPDATE	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
7	←	CELL UPDATE CONFIRM	
8	←	RRC CONNECTION RELEASE	See specific message contents for this message
9	→	RRC STATUS	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.
10			SS waits for 5 minutes (for the expiry of T305 timer).
11	→	CELL UPDATE	This message shall contain IE "Measured results on RACH" reporting the readings of CPICH RSCP for current cell.
12	←	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 - T305	 5 minutes.

System Information Block type 11 (Step 1)

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	FALSE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- 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
- New intra-frequency info list	
- Intra-frequency cell id	2
- 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 2
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	-20dB
- Qrxlevmin	-115dBm
- Cells for measurement	Not Present
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH RSCP
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- 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	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	TRUE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Periodic Reporting
- CHOICE report criteria	Intra-frequency measurementreporting criteria

Information Element	Value/Remark
- Parameters required for each event	
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Not Present
- Reporting Range Constant	20.0 dB
- Cells forbidden to affect reporting range	Not Present
- CHOICE mode	FDD
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 2
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	-85 dBm
- Reporting deactivation threshold	0
- Replacement activation threshold	Not Present
- Time to trigger	0msec
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- 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
- Maximum number of reported cells	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

CELL UPDATE (Step 6 and 11)

Information Element	Value/Remarks
U-RNTI	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	
- Measurement result for current cell	
- CHOICE measurement quantity	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is absent.
Protocol error information	Check to see if set to 'FALSE'

RRC CONNECTION RELEASE (Step 8)

Information Element	Value/remark
All IEs	Not Present

RRC STATUS (Step 9)

Check to see if the same message type found in clause A is received, with the following exceptions:

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

8.1.3.5.5 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 8 the UE shall transmit an RRC STATUS message which includes the appropriate cause values in IE "Protocol error information".

8.1.3.6 RRC Connection Release in CELL_DCH state (Frequency band modification): Success

8.1.3.6.1 Definition

8.1.3.6.2 Conformance requirement

If the UE first receives an RRC CONNECTION RELEASE message in CELL_DCH state, it shall:

- initialize 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.

If 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;
- if V308 is greater than N308:
  - release all its radio resources;
  - enter idle mode;
  - perform cell-selection according to TS25.304;
  - procedure end;

Reference

3GPP TS 25.331 clause 8.1.4.

8.1.3.6.3 Test purpose

To confirm that when the UE receives an RRC CONNECTION RELEASE message the UE transmits N308+1 RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH.

To confirm that the UE enters into idle mode with performing cell-selection and selecting new cell configured by SS.

8.1.3.6.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

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

Table 8.1.3.6

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-55	Off	-55

Table 8.1.3.6 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.6. The SS switches its downlink transmission power settings to columns "T1" and transmits MEASUREMENT CONTROL message and add cell 6 into the IE "inter-frequency cell info". The SS modify contents of SIB3 in cell 1 and cell 6. The SS transmits an RRC CONNECTION RELEASE message. After the SS transmits an RRC CONNECTION RELEASE message to the UE, the SS waits for the UE to transmit RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH and checks to see if N308+1 such messages has been received. The UE leaves connected mode and enters idle mode in cell 1. The UE shall perform cell reselection and camp on cell 6 after reading the system information. The SS calls for generic procedure C.3 to check that UE is in Idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.6.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.3.6.
3	←		MEASUREMENT CONTROL	The SS specifies inter-frequency measurement for cell 6.
4	←		System Information Block type 3	The SS modifies SIB 3 in cell 6.
5	←		System Information Block type 3	The SS modifies SIB 3 in cell 1 to indicate that the cell is barred.
6				The SS waits for 5 s.
7	←		RRC CONNECTION RELEASE	
8	→		RRC CONNECTION RELEASE COMPLETE	The SS waits for the arrival of N308+1 such messages send on UM RLC.
9				The UE releases signalling radio bearer and dedicated resources. Then the UE goes to idle mode in cell 1.
10				The UE select s cell 6 and camp on it.
11				The SS waits for 15 s after receiving the last RRC CONNECTION RELEASE COMPLETE message.
12	←→		CALL C.1	If the test result of C.1 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 3)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 6
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	350
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 [s]
- Reporting cell status	

- CHOICH reported cell	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
- Parameters required for each non-used frequency	
- Threshold non used frequency	-85dbm
- W non-used frequency	0.0

System Information Block type 3 (Step 4)

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0110B

System Information Block type 3 (Step 5)

Use the same message type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Cell Access Restriction	
- Cell barred	Barred
- Intra-frequency cell re-selection indicator	Not allowed
- T_{barred}	10[s]
- 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 Barred10	barred
- Access Class Barred11	barred
- Access Class Barred12	barred
- Access Class Barred13	barred
- Access Class Barred14	barred
- Access Class Barred15	barred

RRC CONNECTION RELEASE (Step 6)

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

8.1.3.6.5 Test requirement

After step 6 the UE shall start to transmit N308 + 1 times RRC CONNECTION RELEASE COMPLETE messages using UM on DCCH.

After step 11 the UE shall be in Idle mode in cell 6.

8.1.4 Void

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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

…

~~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	Direction		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	→		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

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

1> if V304 is greater than N304:

2> initiate the Cell update procedure as specified in TS 25.331 subclause 8.3.1, using the cause "Radio link failure".

~~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. 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	→		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	→		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	→		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
- 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	
- 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
- Closed loop timing adjustment mode	Not Present
- SCCPCH information for FACH	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
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	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
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	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.

8.1.5.5 UE Capability in CELL_FACH state: Success after T304 timeout

8.1.5.5.1 Definition

8.1.5.5.2 Conformance requirement

The UE shall initiate the UE capability update procedure in the following situations:

1> the UE receives a UE CAPABILITY ENQUIRY message from the UTRAN on the DCCH using UM or AM RLC;

1> while in connected mode the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED.

If the UE CAPABILITY INFORMATION message is sent in response to a UE CAPABILITY ENQUIRY message, the UE shall:

1> include the IE "RRC transaction identifier"; and

1> set it to the value of "RRC transaction identifier" in the entry for the UE CAPABILITY ENQUIRY message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE radio access capability" and in IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;

1> retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and

1> include this in IE "UE system specific capability".

If the UE CAPABILITY INFORMATION message is sent because one or more of the UE capabilities change compared to those stored in the variable UE_CAPABILITY_TRANSFERRED while in connected state, the UE shall include the information elements associated with the capabilities that have changed in the UE CAPABILITY INFORMATION message.

…

The UE RRC shall submit the UE CAPABILITY INFORMATION message to the lower layers for transmission on the uplink DCCH using AM RLC. When the message has been delivered to lower layers for transmission the UE RRC shall start timer T304 and set counter V304 to 1.

Upon expiry of timer T304, the UE shall check the value of V304 and:

1> if V304 is smaller than or equal to N304:

2> prior to retransmitting the UE CAPABILITY INFORMATION message:

3> if the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

4> include the same IEs as in the last unsuccessful attempt of this message, except for the IE "Integrity check info", which is modified as follows:

5> increment the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO by one;

5> set the IE "RRC Message sequence number" in the IE "Integrity check info" by the value of the "Uplink RRC Message sequence number" for signalling radio bearer RB2 in the variable INTEGRITY_PROTECTION_INFO in this message;

5> recalculate the IE "Message authentication code" in the IE "Integrity check info" in this message, in accordance with TS 25.331 subclause 8.5.10.3.

3> else:

4> include the same IEs as in the last unsuccessful attempt of this message.

2> send the UE CAPABILITY INFORMATION message on signalling radio bearer RB2;

2> restart timer T304;

2> increment counter V304.

…

~~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	→		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

If the UE receives a DOWNLINK DIRECT TRANSFER message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the UE receives a DOWNLINK DIRECT TRANSFER message, and the signalling connection identified with the IE "CN domain identity" does not exist according to the variable ESTABLISHED_SIGNALLING_CONNECTIONS, the UE shall:

1> ignore the content of the DOWNLINK DIRECT TRANSFER message;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".

When the RRC STATUS message has been submitted to lower layers for transmission, the UE shall:

1> continue with any ongoing processes and procedures as if the DOWNLINK DIRECT TRANSFER message has not been received.

~~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 TRANSFER 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	→		RRC STATUS	
3	←		DOWNLINK DIRECT TRANSFER	
4	→		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 NAS message	CS domain or PS domain as unselected domain 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 - RRC transaction identifier Protocol error information – Protocol error cause	 DOWNLINK DIRECT TRANSFER Same value in the DOWNLINK DIRECT TRANSFER message in step 3. 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

If the UE receives a DOWNLINK DIRECT TRANSFER message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the UE receives a DOWNLINK DIRECT TRANSFER message, and the signalling connection identified with the IE "CN domain identity" does not exist according to the variable ESTABLISHED_SIGNALLING_CONNECTIONS, the UE shall:

1> ignore the content of the DOWNLINK DIRECT TRANSFER message;

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to DOWNLINK DIRECT TRANSFER; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the DOWNLINK DIRECT TRANSFER message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state".

When the RRC STATUS message has been submitted to lower layers for transmission, the UE shall:

1> continue with any ongoing processes and procedures as if the DOWNLINK DIRECT TRANSFER message has not been received.

~~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 UEand 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 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		→	RRC STATUS	
3		←	DOWNLINK DIRECT TRANSFER	
4		→	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 NAS message	CS domain or PS domain as unselected domain 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 Protocol error information – Protocol error cause	 DOWNLINK DIRECT TRANSFER Same value in the DOWNLINK DIRECT TRANSFER message in step 3. 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".

8.1.8 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 it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> set the IE "RRC transaction identifier" in the COUNTER CHECK RESPONSE message to the value of "RRC transaction identifier" in the entry for the COUNTER CHECK message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry.

If:

- there is one or more radio bearer(s) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS, which is (are) not included in the IE "RB COUNT-C MSB information"; or

- there is one or more radio bearer(s) included in the IE "RB COUNT-C MSB information", which is (are) not stored in the variable ESTABLISHED_RABS; or

- for any radio bearer (excluding signalling radio bearers) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS and included in the IE "RB COUNT-C MSB information" with COUNT-C MSB values different from the MSB part of the COUNT-C values in the UE:

the UE shall:

1> include these radio bearers in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message. For any RB which is included in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message but not stored in the variable ESTABLISHED_RABS in the UE, the MSB part of COUNT-C values in the COUNTER CHECK RESPONSE message shall be set identical to COUNT-C-MSB values in the COUNTER CHECK message. The LSB part shall be filled with zeroes.

The UE shall:

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

When the COUNTER CHECK RESPONSE message has been submitted to lower layers for transmission the procedure ends.

If the UE receives a COUNTER CHECK message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to COUNTER CHECK; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE COUNTER CHECK message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid COUNTER CHECK message has not been received.

~~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 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	→		RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	←		COUNTER CHECK	See specific message content.
7	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".
8	←		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)

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)

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 it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> set the IE "RRC transaction identifier" in the COUNTER CHECK RESPONSE message to the value of "RRC transaction identifier" in the entry for the COUNTER CHECK message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry.

If:

- there is one or more radio bearer(s) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS, which is (are) not included in the IE "RB COUNT-C MSB information"; or

- there is one or more radio bearer(s) included in the IE "RB COUNT-C MSB information", which is (are) not stored in the variable ESTABLISHED_RABS; or

- for any radio bearer (excluding signalling radio bearers) using UM or AM RLC mode stored in the variable ESTABLISHED_RABS and included in the IE "RB COUNT-C MSB information" with COUNT-C MSB values different from the MSB part of the COUNT-C values in the UE:

the UE shall:

1> include these radio bearers in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message. For any RB which is included in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message but not stored in the variable ESTABLISHED_RABS in the UE, the MSB part of COUNT-C values in the COUNTER CHECK RESPONSE message shall be set identical to COUNT-C-MSB values in the COUNTER CHECK message. The LSB part shall be filled with zeroes.

The UE shall:

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

When the COUNTER CHECK RESPONSE message has been submitted to lower layers for transmission the procedure ends.

If the UE receives a COUNTER CHECK message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to COUNTER CHECK; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the UE COUNTER CHECK message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid COUNTER CHECK message has not been received.

~~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 access bearer established.

Expected sequence

Step	Direction		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	→		RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	←		COUNTER CHECK	See specific message content.
7	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".
8	←		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".

8.1.11 Signalling Connection Release (Invalid configuration)

8.1.11.1 Definition

8.1.11.2 Conformance requirement

Upon reception of a SIGNALLING CONNECTION RELEASE message, the UE shall:

1> indicate the release of the signalling connection and pass the value of the IE "CN domain identity" to upper layers;

1> remove the signalling connection with the identity indicated by the IE "CN domain identity" from the variable ESTABLISHED_SIGNALLING_CONNECTIONS;

1> clear the entry for the SIGNALLING CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS;

1> the procedure ends.

If radio access bearers for the CN domain indicated by the IE "CN domain identity" exist in the variable ESTABLISHED_RABS, the UE shall:

1> transmit an RRC STATUS message on the uplink DCCH using AM RLC;

1> include the IE "Identification of received message"; and

1> set the IE "Received message type" to SIGNALLING CONNECTION RELEASE; and

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the SIGNALLING CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS and clear that entry;

1> include the IE "Protocol error information" with contents set to the value "Message not compatible with receiver state";

1> when the RRC STATUS message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid SIGNALLING CONNECTION RELEASE message has not been received.

Reference

3GPP TS 25.331 clause 8.1.13.3 and 8.1.13.5.

8.1.11.3 Test purpose

To confirm that the UE ignores the SIGNALLING CONNECTION RELEASE REQUEST message which request the UE to release signalling connection of domain that contains established radio access bearers.

To confirm that the UE transmit a RRC STATUS message to SS after detecting an invalid configuration in the received message.

8.1.11.4 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

SS transmit MEASUREMENT CONTROL message to UE. In this message, SS requests UE to perform traffic volume measurement. Key measurement parameters are as follows: measurement quantity = "RLC Buffer Payload", report criteria = "periodic reporting criteria", reporting interval = "6 seconds", reporting amount = 'infinity'. UE shall begin traffic volume measurements, and shall send MEASUREMENT REPORT message after completing first measurement. UE shall send second MEASUREMENT REPORT message 6 seconds after first MEASUREMENT REPORT message. Then SS transmit SIGNALLING CONNECTION RELEASE message to UE. UE shall ignore the message and send a RRC STATUS message to SS. Then the UE shall send MEASUREMENT REPORT message to SS within the next 6 seconds.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	Periodical traffic volume measurement reporting is requested.
2	→		MEASUREMENT REPORT	
3	→		MEASUREMENT REPORT	Time difference between earlier and this MEASUREMENT REPORT message should be 6 seconds.
4	←		SIGNALLING CONNECTION RELEASE	If the initial condition of the UE is state 6-9, set the IE "CN domain identity" to "CS domain". If the initial condition of the UE is state 6-10, set the IE "CN domain identity" to "PS domain".
5	→		RRC STATUS	
6	→		MEASUREMENT REPORT	This message should be sent within 6 seconds after the previous message.

Specific Message Content

MEASUREMENT CONTROL (Step 1)

For MEASUREMENT CONTROL message in step 1, use the message sub-type as found in clause 9 of TS 34.108, with the exception of the following Information Elements:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Transfer Mode	Acknowledged mode
- Periodical or event trigger	Periodic
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	Not Present
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	6 Sec
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 2, 3 and 6)

Check that the message received is the same as the message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

SIGNALLING CONNECTION RELEASE (Step 4)

Information Element	Value/Remarks
Message Type	
RRC transaction identifier	0
Integrity check info	The presence of this IE depends on the 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.
CN domain identity	If the initial condition of the UE is state 6-9, set to "CS domain". If the initial condition of the UE is state 6-10, set to "PS domain".

RRC STATUS (Step 5)

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
- Received message type	SIGNALLING CONNECTION RELEASE
- RRC transaction identifier	0
Protocol error information	
- Protocol error cause	Message not compatible with receiver state

8.1.11.5 Test requirement

After step 1 the UE shall transmit MEASUREMENT REPORT message twice at an interval of 6 seconds.

After step 4 the UE shall transmit a RRC STATUS message with protocol error cause set to "Message not compatible with receiver state".

After step 5 the UE shall transmit a MEASUREMENT REPORT within 6 seconds.

3GPP TSG- T1 Meeting #16
Yokohama, Japan, 2nd Aug 2002

T1-020525

3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th- 31st July 2002

Tdoc T1S-020519

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 273** ⌘ rev **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to non-package1&2 clause 8.2 of TS34.123-1 (merging T1S-020469 and TC 8.2.6.21 and 8.2.6.22 of T1S-020407)
Source:	⌘	Panasonic, Ericsson
Work item code:	⌘	TEI
Date:	⌘	31 July 2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘

1. Update Conformance Requirement according to core specification 25.331.
2. Editorial changes.
3. Add generic procedure at the end of some test cases to verify the final state of the UE.
4. Add specific procedures, either before or after the actual testing, to verify that the UE continues with any ongoing processes and procedures as if the erroneous message has not been received.
5. IE “Primary scrambling code” is not needed when UE transit to CELL_PCH or URA_PCH in the same cell. However IE “Primary scrambling code” is needed when transiting to CELL_FACH in the same cell to avoid cell reselection.
6. In some test cases, using ASN.1 error to simulate invalid message will not cause the UE to transmit failure message (rather RRC STATUS will be sent), it is proposed here to use critical message extension to simulate invalid messages in these test cases.

The modification is added in T1S-020361 as below with blue marker.

7. Clause 8.2.4.1a is belonging to package 3. Therefore the modification should be moved from T1S-020381.

The modifications added from TC 8.2.6.21, 8.2.6.22 (T1S-020407) are marked in yellow marker:

8. The IE “New C-RNTI” is removed from PHYSICAL CHANNEL RECONFIGURATION since it is not required in URA_PCH state.

Summary of change: ⌘

In clause 8.2.1.3

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

In clause 8.2.1.4

- Conformance Requirement and Reference are updated.
- In Test Purpose, it should be RADIO BEARER SETUP, not RADIO BEARER RECONFIGURATION.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

In clause 8.2.1.5

- Name of the test case is changed from "reversion failure" to "cell reselection".
- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 7, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

In clause 8.2.1.6

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

In clause 8.2.1.7

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

- Critical extension is added to the message content of RADIO BEARER SETUP (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.1.11

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.1.12

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.1.13

- Name of the test case is changed from “reversion failure” to “cell reselection”.
- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 8, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.1.14

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.1.15

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of RADIO BEARER SETUP (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.1.16

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.2 to check that UE is in CELL_FACH at the end of test.
- From CELL_FACH to CELL_FACH in the same cell, IE “Downlink information per radio link list” should be set such that cell reselection does not occur, therefore it is set to “Reference to the Default setting for cell 1 in TS34.108 clause 6.1 (FDD)”.

In clause 8.2.1.17

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.1.18

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.1.19

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.4 to check that UE is in CELL_PCH at the end of test.

In clause 8.2.1.20

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.5 to check that UE is in URA_PCH at the end of test.

In clause 8.2.1.21

- This test case is moved to subclause 8.1.2.10.

In clause 8.2.1.22

- Measurement control message(Step 3) was removed because of omitting signalling. The contents of system information block type 11 are modified in order for UE to know neighboring cell information.
- In Specific Message Contents, the IE "Downlink information for each radio link " and the IE “frequency info” was set to “Not present” because the best cell shall be selected by UE without any indication from UTRAN.

In clause 8.2.2.2

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.3

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.4

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 7, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.5

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.6

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of RADIO BEARER RECONFIGURATION (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.2.12

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.13

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 8, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.2.14

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.2.15

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of RADIO BEARER RECONFIGURATION (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.2.21

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.4 to check that UE is in CELL_PCH at the end of test.

In clause 8.2.2.22

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.5 to check that UE is in URA_PCH at the end of test.

In clause 8.2.2.25

- Conformance Requirement is updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.3.2

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.3.3

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.3.4

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 7, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.3.5

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.3.6

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of RADIO BEARER RELEASE (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.3.10

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.3.11

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.

- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.3.12

- Conformance Requirement and Reference are updated.

In clause 8.2.3.13

- Conformance Requirement is updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.3.14

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of RADIO BEARER RELEASE (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.3.16

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.3.17

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.3.20

- Measurement control message(Step 3) was removed because of omitting signalling. The contents of system information block type 11 are modified in order for UE to know neighborling cell information.
- In Specific Message Contents, the IE "Downlink information for each radio link " and the IE “frequency info” was set to “Not present” because the best cell shall be selected by UE without any indication from UTRAN.

In clause 8.2.3.21

- Measurement control message(Step 3) was removed because of omitting signalling. The contents of system information block type 11 are modified in order for UE to know neighboring cell information.
- In Specific Message Contents, the IE "Downlink information for each radio link " and the IE “frequency info” was set to “Not present” because the best cell shall be selected by UE without any indication from UTRAN.

In clause 8.2.4.2

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.4.5

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.4.6

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of TRANSPORT CHANNEL RECONFIGURATION (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.4.11

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.4.12

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.4.13

- Conformance Requirement and Reference are updated.

In clause 8.2.4.14

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.4.15

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of TRANSPORT CHANNEL RECONFIGURATION (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.4.18

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.4.19

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.4.20

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.4 to check that UE is in CELL_PCH at the end of test.

In clause 8.2.4.22

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.4 to check that UE is in CELL_PCH at the end of test.

In clause 8.2.4.23

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.5 to check that UE is in URA_PCH at the end of test.

In clause 8.2.5.4

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Step 2 message causes “ASN.1 violation”. Therefore, RRC STATUS should be sent by UE in step 3, not TRANSPORT FORMAT COMBINATION CONTROL FAILURE.

In clause 8.2.6.2

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.6.3

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 3, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.

In clause 8.2.6.4

- Name of the test case is changed from “reversion failure” to “cell reselection”.
- Conformance Requirement and Reference are updated.

In clause 8.2.6.5

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.6.6

- Conformance Requirement and Reference are updated.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 2 and step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if the reconfiguration message was not received”.
- Critical extension is added to the message content of PHYSICAL CHANNEL RECONFIGURATION (step 1). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.2.6.10

- Conformance Requirement and Reference are updated.
- Before step 4, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 5, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE “continues with any ongoing processes and procedures as if

the reconfiguration message was not received".

In clause 8.2.6.11

- Conformance Requirement and Reference are updated.
- Before step 4, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 6, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".

In clause 8.2.6.12

- Conformance Requirement and Reference are updated.

In clause 8.2.6.13

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.6.14

- Conformance Requirement and Reference are updated.
- Before step 4, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 5 and step 8, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the reconfiguration message was not received".
- Critical extension is added to the message content of PHYSICAL CHANNEL RECONFIGURATION (step 4). This will create "Unexpected Critical Extension" error, not "ASN.1 violation".

In clause 8.2.6.17

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.6.18

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.6.21

- SS called generic procedure C.5 to check that UE is in URA_PCH at the end of test.
- In Specific Message Content of PHYSICAL CHANNEL RECONFIGURATION (Step 1), the "Downlink information per radio link list" is set to "Not Present".
- The IE "New C-RNTI" is removed from PHYSICAL CHANNEL RECONFIGURATION since it is not required in URA_PCH state.

In clause 8.2.6.22

- SS called generic procedure C.4 to check that UE is in CELL_PCH at the end of test.
- In Specific Message Content of PHYSICAL CHANNEL RECONFIGURATION (Step 1), the IE “Downlink information per radio link list” is set to “Not Present”.
- The IE “New C-RNTI” is removed from PHYSICAL CHANNEL RECONFIGURATION since it is not required in URA_PCH state.

In clause 8.2.6.23

- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.2.6.24

- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Some additional test steps are added so as to confirm the restricted uplink TFS according to the specified spreading factor by data transmission on the radio access bearer.

In clause 8.2.6.25

- Measurement control message(Step 3) was removed because of omitting signalling. The contents of system information block type 11 are modified in order for UE to know neighboring cell information
- In Specific Message Contents, the IE "Downlink information for each radio link " and the IE “frequency info” was set to “Not present” because the best cell shall be selected by UE without any indication from UTRAN.

In clause 8.2.6.26

- Measurement control message(Step 3) was removed because of omitting signalling. The contents of system information block type 11 are modified in order for UE to know neighboring cell information.
- In Specific Message Contents, the IE "Downlink information for each radio link " and the IE “frequency info” was set to “Not present” because the best cell shall be selected by UE without any indication from UTRAN.

The modification is added in T1S-020361 as below with blue marker.

Clause 8.2.4.1a is added and modified since this clause is specified as pachakge 3.

- Conformance Requirement and Reference are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Some additional test steps are added so as to confirm reconfigured transport format combination in case of specifying the restriced TFC in maximum TFCS by data transmission on the radio access bearer.

Consequences if not approved:	⌘	If changes are not approved, UE might not be properly tested.

Clauses affected:	⌘	8.2.1.3, 8.2.1.4, 8.2.1.5, 8.2.1.6, 8.2.1.7, 8.2.1.11, 8.2.1.12, 8.2.1.13, 8.2.1.14, 8.2.1.15, 8.2.1.16, 8.2.1.17, 8.2.1.18, 8.2.1.19, 8.2.1.20, 8.2.1.21, 8.2.1.22, 8.2.2.2, 8.2.2.3, 8.2.2.4, 8.2.2.5, 8.2.2.6, 8.2.2.12, 8.2.2.13, 8.2.2.14, 8.2.2.15, 8.2.2.21, 8.2.2.22, 8.2.2.25, 8.2.3.2, 8.2.3.3, 8.2.3.4, 8.2.3.5, 8.2.3.6, 8.2.3.10, 8.2.3.11, 8.2.3.12, 8.2.3.13, 8.2.3.14, 8.2.3.16, 8.2.3.17, 8.2.3.20, 8.2.3.21, 8.2.4.1a, 8.2.4.2, 8.2.4.5, 8.2.4.6, 8.2.4.11, 8.2.4.12, 8.2.4.13, 8.2.4.14, 8.2.4.15, 8.2.4.18, 8.2.4.19, 8.2.4.20, 8.2.4.22, 8.2.4.23, 8.2.5.4, 8.2.6.2, 8.2.6.3, 8.2.6.4,

		8.2.6.5, 8.2.6.6, 8.2.6.10, 8.2.6.11, 8.2.6.12, 8.2.6.13, 8.2.6.14, 8.2.6.17, 8.2.6.18, 8.2.6.21, 8.2.6.22, 8.2.6.23, 8.2.6.24, 8.2.6.25, 8.2.6.25		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5		

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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 Radio Bearer control procedure

8.2.1 Radio Bearer Establishment

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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 with the following exceptions:

RADIO BEARER SETUP (FDD)

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

RADIO BEARER SETUP (TDD)

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

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
Message Type Failure cause	 Configuration unsupported

8.2.1.3.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.7, 8.2.2.9, 8.5.4~~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 SETUP ~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
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	→		RADIO BEARER SETUP FAILURE	UE shall transmit this message using the old configuration.
4		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 4)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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.

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	Physical channel failure

8.2.1.4.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

8.2.1.5.1 Definition

8.2.1.5.2 Conformance requirement

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

1> if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

If the CELL UPDATE CONFIRM message:

- does not include "RB information elements"; and
- does not include "Transport channel information elements"; and
- includes "Physical channel information elements":

the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.7, 8.2.2.9, 8.3.1.7~~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 then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	RADIO BEARER SETUP	
2				The SS does not configure new radio access bearer and shall release the configuration.
3		→	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		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7		→	RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"
8		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 8)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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) (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 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 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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".

After step 7, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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 received message is any of the messages:

- RADIO BEARER SETUP; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.9, 8.2.2.12~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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. UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
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 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.
5	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 1b and 13)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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.

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.13, 8.2.2.11, 8.2.2.9~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid RADIO BEARER SETUP message to the UE which contains an unexpected critical message extension ~~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~~Message extension not comprehended" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER SETUP	See specific message content.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change its configuration.
2a	→		MEASUREMENT REPORT	
3	←		RADIO BEARER SETUP	This message includes IE set to invalid value.
4	→		RADIO BEARER SETUP FAILURE	The UE does not change its configuration.
5	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 SETUP (Step 1)

Use the RADIO BEARER SETUP message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

RADIO BEARER SETUP FAILURE (Step 2)

Information Element	Value/remark
Message Type Failure cause - Failure cause - Protocol error information - Protocol error cause Other information element	 Protocol error ~~ASN.1 violation or encoding error~~Message extension not comprehended 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 - DPCH frame offset	512 1024

RADIO BEARER SETUP (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

RADIO BEARER SETUP FAILURE (Step ~~5~~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
Message Type Failure cause	 Invalid configuration

8.2.1.7.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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~~Message extension not comprehended" in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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".

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER SETUP	This message includes an unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE shall transmit this message using RLC-AM mode and do not change the current configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 SETUP (Step 1)

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)

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

RADIO BEARER SETUP (TDD)

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

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
Message Type Failure cause	 Configuration unsupported

8.2.1.11.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.7, 8.2.2.9, 8.5.4~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER SETUP	The SS keep its old configuration.
2	→		RADIO BEARER SETUP FAILURE	The UE does not configure a new radio bearer and reverts to the old configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 SETUP (Step 1)

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 (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
Message Type Failure cause	 Physical channel failure

8.2.1.12.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

8.2.1.13.1 Definition

8.2.1.13.2 Conformance requirement

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.7, 8.2.2.9, 8.3.1.7~~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

Table 8.2.1.13

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

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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
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	→		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 CONFIRM	
8	→		RADIO BEARER SETUP FAILURE	The IE "failure cause" shall be set to "physical channel failure"
9	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 9)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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".

After step 8, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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 received message is any of the messages:

- RADIO BEARER SETUP; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.9, 8.2.2.12, ~~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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 - Uplink DPCH timeslots and codes - First timeslot code list	Current CFN-[current CFN mod 8 + 8] 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 - Uplink DPCH timeslots and codes - First timeslot code list	Not Present 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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER SETUP message:

…

2> transmit a RADIO BEARER SETUP FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.13, 8.2.2.11, 8.2.2.9~~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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.The SS transmits an invalid RADIO BEARER SETUP message to the UE which contains an unexpected critical message extension~~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~~Message extension not comprehended" 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER SETUP	See specific message content.
2	→		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	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.
5	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 SETUP (Step 1)

Use the RADIO BEARER SETUP message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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 information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~Message extension not comprehended

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 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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~~Message extension not comprehended" 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".

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

If the UE receives:

- a RADIO BEARER SETUP message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC.

~~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 8.2.2.3, 8.2.2.4~~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. SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	The UE select PRACH and S-CCPCH using SIB5 or SIB6.
3	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

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~~[9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Downlink information per radio link list	
- Downlink information for each radio link	
- Choice mode	FDD
- Primary CPICH info	
- Primary scrambling code	Reference to the Default setting for cell 1 in TS34.108 clause 6.1 (FDD)
- 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

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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- RADIO BEARER SETUP; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

…

~~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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		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. For TDD the IE "Secondary scrambling code" is set to "2" and for TDD mode a different code combination to that used in step 11 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.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
RRC transaction identifier	0
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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Secondary scrambling code	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present 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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- RADIO BEARER SETUP; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

~~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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		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. For FDD mode 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 confirms configuration according to the RADIO BEARER SETUP message in step 1.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
RRC transaction identifier	0
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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 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
RRC transaction identifier	0
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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present 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

If the UE receives:

- a RADIO BEARER SETUP message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_PCH , the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC.

~~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 8.2.2.3, 8.2.2.4~~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. SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is in CELL_PCH state.
4	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

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
UTRAN DRX cycle length coefficient	3
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
UTRAN DRX cycle length coefficient	3
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

If the UE receives:

- a RADIO BEARER SETUP message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC.

~~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 8.2.2.3, 8.2.2.4~~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. SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is in URA_PCH state.
4	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

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
UTRAN DRX cycle length coefficient	3
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
UTRAN DRX cycle length coefficient	3
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.

8.2.1.21 Void~~RRC connection establishment in CELL_DCH on another frequency~~

~~8.2.1.21.1 Definition~~

~~8.2.1.21.2 Conformance requirement~~

~~1. The UE shall, in the transmitted RRC CONNECTION REQUEST message:~~

~~– set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;~~

~~– set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;~~

~~– set the IE "Protocol error indicator" to the value of the variable PROTOCOL_ERROR_INDICATOR;~~

~~– include a measurement report in the IE "Measured results on RACH", as specified in 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.~~

~~2. The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.~~

~~If the values are identical, the UE shall:~~

~~– perform the physical layer synchronization procedure~~

~~Reference~~

~~3GPP TS 25.331 clauses 8.3.1.3, 8.3.1.6~~

~~8.2.1.21.3 Test Purpose~~

~~To confirm that the UE manages to synchronize on another frequency when so required by UTRAN in the RRC CONÚECTION SET UP message.~~

~~8.2.1.21.4 Method of test~~

~~Initial condition~~

~~System simulator: 2 cells – Cell 1 on UARFCN 1 and Cell 2 on UARFCN 2.~~

~~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 state shall be "Registered idle mode on CS/PS" (state 7).~~

~~Test procedure~~

~~The UE is initially in idle mode and is camping on cell 1. SIB 11 is broadcast in cell 1, and the parameters used are as specified below.~~

~~SS prompts the operator to make an outgoing call of a supported traffic class. The UE shall transmit an RRC CONNECTION REQUEST on the CCCH, and SS replies with the RRC CONNECTION SETUP, in which the IEs are set as described below. The UE shall send the RRC CONNECTION SETUP COMPLETE back to SS in cell 2 on the DPCH described in the RRC CONNECTION SET UP messsage received from the SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	By outgoing call operation
2	←		RRC CONNECTION SETUP	
3				The UE configures the layer 2 and layer 1.
4	→		RRC CONNECTION SETUP COMPLETE	This message is sent to on the frequency indicated in the RRC CONNECTION SETUP message
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content

All messages indicated below shall use the same content as described in the default message content, with the following exceptions:

System Information Block type 11

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency info list	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	256 chips
- Read SFN Indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection	Not present
- Cell for measurement	Not present
- Intra-frequency measurement quantity	Not present
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current Cell
- Reporting information for state CELL_DCH	Not present

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
Measured results on RACH	Check that the Ec/No for the cell 1 is reported.

~~RRC CONNECTION SETUP (Step 3)~~

~~Use the same message type found in clause 9 of TS 34.108, with the following exception.~~

~~Information Element~~	~~Value/remark~~
~~Frequency info~~	
~~-UARFCN uplink(Nu)~~	~~UARFCN uplink of cell 2~~
~~-UARFCN downlink(Nd)~~	~~UARFCN downlink of cell 2~~

~~8.2.1.21.5 Test requirement~~

~~In step 4, the UE shall send the RRC CONNECTION SETUP COMPLETE message on the frequency indicated in the RRC CONNECTION SETUP message.~~

8.2.1.22 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success

8.2.1.22.1 Definition

8.2.1.22.2 Conformance requirement

If the UE receives:

-a RADIO BEARER SETUP message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS5.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS5.304.

1> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" :

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

1> select PRACH according to TS25.331 subclause 8.5.17;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

2> perform a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.1.22.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_FACH according to the RADIO BEARER SETUP message.
2. To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.1.22.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Test Procedure

Table 8.2.1.22

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.1.22 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 ~~CELL_DCH~~idle mode state of cell 1 and the SS configures its downlink transmission power setting according to columns "T0" in table 8.2.1.22. The SS modifies the contents of System formation block 11 in cell 1, so that include IE "Inter frequency measurement system information" about cell 6. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9. The SS switches its downlink transmission power settings to columns "T1" ~~and transmits MEASUREMENT CONTROL message in order for the UE to know information of cell 6. The SS~~ and transmits a RADIO BEARER SETUP message ~~including~~ with no IE" ~~new f~~Frequency info" ~~rmation~~ to the UE. After the UE receives this message, it transits from CELL_DCH in cell 1 to CELL_FACH state in cell 6, and initiates~~transmit~~s CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection". Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC in cell 6. The SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default settings ~~The initial state of UE is in CELL_DCH state of cell 1~~ and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.22.
1a		←→	SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
1b		←→	SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.1.22.
3	~~←~~		~~MEASUREMENT CONTROL~~Void	~~The SS specifies inter-frequency measurement for cell 6.~~
4		←	RADIO BEARER SETUP	No i~~I~~ncluding ~~new~~ frequency information.
5		→	CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
6		←	CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
7		→	UTRAN MOBILITY INFORMATION CONFIRM	
8		→	RADIO BEARER SETUP COMPLETE	The UE sends this message on a common physical channel in cell 6.~~The UE selects PRACH and S-CCPCH indicated in SIB5 or SIB6 after entering CELL_FACH state in cell 6.~~
9		←→	CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

~~MEASUREMENT CONTROL (Step 3)~~

~~Use the same message sub-type found in [9] TS 34.108 clause 9 , with the following exceptions in the IE(s) concerned:~~

~~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 Mode~~	~~Event Trigger~~
~~Additional measurements list~~	~~Not Present~~
~~CHOICE measurement type~~	~~Inter-frequency measurement~~
~~- Inter-frequency measurement object list~~	
~~- Inter-frequency cell info list~~	
~~- CHOICE inter-frequency cell removal~~	~~No inter-frequency cells removed~~
~~- New inter-frequency cells~~	
~~- Inter-frequency cell id~~	~~6~~
~~- Frequency info~~	
~~- UARFCN uplink (Nu)~~	~~UARFCN of the uplink frequency for cell 6~~
~~- UARFCN downlink (Nd)~~	~~UARFCN of the downlink frequency for cell 6~~
~~- Cell info~~	
~~- Cell individual offset~~	~~0 dB~~
~~- Reference time difference to cell~~	~~0 chips~~
~~- Read SFN Indicator~~	
~~- CHOICE Mode~~	~~FDD~~
~~- Primary CPICH Info~~	
~~- Primary Scrambling Code~~	~~350~~
~~- Primary CPICH TX power~~	~~Not Present~~
~~- Primary CPICH TX power~~	
~~- TX Diversity Indicator~~	~~Not Present~~
~~- Cell for measurement~~	~~Not Present~~
~~- Inter-frequency measurement quantity~~	

- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non-frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 s
- Reporting cell status	
- CHOICH reported cell	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
- Parameters required for each non-used frequency	
- Threshold non-used frequency	-85dbm
- W non-used frequency	0.0

RADIO BEARER SETUP (Step 4)

Use the message sub-type indicated as "Packet to CELL_FACH from CELL_DCH in PS" found in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info	Not present
Downlink information for each radio link - UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6Not present
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6

CELL UPDATE (Step 5)

The contents of CELL UPDATE message are~~is~~ identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 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 are~~is~~ identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 7)

The contents of UTRAN MOBILITY UPDATE CONFIRM message are~~is~~ identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.1.22.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

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

After step 7 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC in cell 6.

After step 8 the UE shall be in CELL_FACH state of cell 6.

8.2.1.23 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success

8.2.1.23.1 Definition

8.2.1.23.2 Conformance requirement

If the UE receives:

-a RADIO BEARER SETUP message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> remove any C-RNTI from MAC;

1> clear the C_RNTI.

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.1.23.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_DCH according to the RADIO BEARER SETUP message.

2. To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.1.23.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

UE: CS-DCCH_FACH (state 6-6) or PS_DCCH_FACH (state 6-8) as specified in clause 7.4 of TS 34.108, depending on the CN domain(s) supported by the UE.

Test Procedure

Table 8.2.1.23

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-55	Off	-55

Table 8.2.1.23 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.23. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER SETUP message including new frequency information to the UE. After the UE receives this message, it configures them and establishes the required radio access bearers and moves into cell 6. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. The SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.23.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.1.23.
3	←		RADIO BEARER SETUP	Including new frequency information.
4	→		RADIO BEARER SETUP COMPLETE	The UE sends this message in cell 6.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER SETUP (Step 3)

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" or "Non speech from CELL_FACH to CELL_DCH in CS" or "Speech from CELL_FACH to CELL_DCH in CS" in [9] TS 34.108 clause 9 , with the following exception:

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

8.2.1.23.5 Test requirement

After step 3 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC in cell 6.

After step 4 the UE shall be in CELL_DCH state of cell 6.

8.2.2 Radio Bearer Reconfiguration

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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: 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 (FDD) (Step 1)

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
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 0 950

RADIO BEARER RECONFIGURATION (TDD) (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 A with the following exceptions:

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

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
Failure cause	Configuration unsupported

8.2.2.2.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration unsupported" set in IE "failure cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel before timer T312 expires. 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 8.2.2.7, 8.2.2.9, 8.5.4~~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 radio bearer expires according to the RADIO BEARER RECONFIGURATION message before timer T312.

8.2.2.3.4 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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RECONFIGURATION	
2				SS does not reconfigure L1.
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.
4	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 4)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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 found in Annex A.

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
Failure cause	Physical channel failure

8.2.2.3.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 2 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".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

8.2.2.4.1 Definition

8.2.2.4.2 Conformance requirement

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

1> if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

If the CELL UPDATE CONFIRM message:

- does not include "RB information elements"; and
- does not include "Transport channel information elements"; and
- includes "Physical channel information elements":

the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.7, 8.2.2.9, 8.3.1.7~~8.2.2~~.

8.2.2.4.3 Test purpose

To confirm that the UE transmits a 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: 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RECONFIGURATION message, which includes the new radio bearer parameters, to the UE. After the reception of the acknowledgement for the RADIO BEARER RECONFIGURATION message in SS, the SS shall not reconfigure dedicated physical channel in accordance 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. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the dedicated physical channel in accordance with the RADIO BEARER RECONFIGURATION message and shall release the old configuration.
3	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
4				The SS configures the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
5	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7	→		RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"
8	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 1b and 13)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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.

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 5) (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 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

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)

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
Failure cause	"physical channel failure"

8.2.2.4.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

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

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

After step 7, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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 received message is any of the messages:

- RADIO BEARER RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12,~~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 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.

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 then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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 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 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. UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	RADIO BEARER SETUP	
2		←	RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change its configuration according to the RADIO BEARER RECONFIGURATION message in step 2.
4		→	RADIO BEARER SETUP COMPLETE	This message is on DCCH using AM RLC.
5		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 SETUP (Step 1) (FDD)

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 Info - Scrambling code number	 1

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 "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex A with following exceptions:

Information Element	Value/remark
Activation Time	Not Present.
Uplink DPCH Info - Scrambling code number	 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
Failure cause	Incompatible simultaneous reconfiguration

8.2.2.5.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RECONFIGURATION message, which does not includes 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 "ASN.1 violation or encoding error" in IE "Protocol error cause".~~

~~The UE shall keep existing configuration upon reception of a RADIO BEARER RECONFIGURATION message, which includes some IEs set to give an invalid configuration, 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 8.2.2.13, 8.2.2.11, 8.2.2.9~~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 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 configuration.

8.2.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH (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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which contains an unexpected critical message extension~~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 error~~Message extension not comprehended" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. The UE keeps current configuration after SS transmits a RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RECONFIGURATION	See specific message content.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
2a	→		MEASUREMENT REPORT	
3	←		RADIO BEARER RECONFIGURATION	This message includes IE set to give an invalid configuration.
4	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.
5	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 1)

Use the RADIO BEARER RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~Message extension not comprehended

RADIO BEARER RECONFIGURATION (Step 3) (FDD)

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
- Default DPCH Offset Value - DPCH frame offset	512 1024

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)

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
Failure cause	Invalid configuration

8.2.2.6.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall 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 "~~ASN.1 violation or encoding error~~Message extension not comprehended" in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

8.2.2.12.1 Definition

8.2.2.12.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel before timer T312 expires and detects the same serving cell only. 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 8.2.2.7, 8.2.2.9, 8.5.4~~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 before timer T312 expires 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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RECONFIGURATION message, which includes the new radio bearer parameters, to the UE and keep its current physical channel channel configuration. Therefore, the UE cannot reconfigure the radio bearers and shall attempt cell reselection procedure after T312 expires. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RECONFIGURATION	
2	→		RADIO BEARER RECONFIGURATION FAILURE	The SS does not reconfigures L1 and the UE fails to reconfigure its radio bearers.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 1)

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

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
Failure cause	Physical channel failure

8.2.2.12.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE "failure cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.2.13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell re-selection)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.304 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 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 8.2.2.7, 8.2.2.9, 8.3.1.7, 8.5.4~~8.2.2~~.

8.2.2.13.3 Test purpose

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

8.2.2.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.

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

Test Procedure

Table 8.2.2.13

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm /3.84 MHz	-60	-75	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	-75	switched off	-60

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 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 CELL_FACH state in cell 1. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RECONFIGURATION message, which includes the new radio bearer parameters, to the UE but SS does not reconfigure dedicated physical channel in accordance with the 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. The UE recognize that it cannot synchronize with the SS on the new radio bearers.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. UE reply with UTRAN MOBILITY INFORMATION CONFIRM message. The UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" to IE "failure cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
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 8.2.2.13.
3			Void	
4			Void	
5		→	CELL UPDATE	The value "cell reselection" shall be set in IE "Cell update cause".
6		←	CELL UPDATE CONFIRM	See message content.
7		→	UTRAN MOBILITY INFORMATION CONFIRM	
8		→	RADIO BEARER RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"
9		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 9)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 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 A with the following exceptions:

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

CELL UPDATE CONFIRM (Step 6)

Use the same message type found in clause Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 7)

Only the message type is checked.

RADIO BEARER RECONFIGURATION FAILURE (Step 8)

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
Failure cause	"physical channel failure"

8.2.2.13.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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 UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC.

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

After step 8, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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 received message is any of the messages:

- RADIO BEARER RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12, ~~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 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 CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER RECONFIGURATION message before the "activation time" indicated in the PHYSICAL CHANNEL RECONFIGURATION 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 acknowledges the RADIO BEARER RECONFIGURATION FAILURE message, the UE reconfigures the new physical channel parameters and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	
2	←		RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous message.
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change its configuration according to the RADIO BEARER RECONFIGURATION message.
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

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 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 Uplink DPCH Info - Scrambling code number	Not Present 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 Uplink DPCH timeslots and codes - First timeslot code list	 A different code combination to that used in step 1.

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.2.14.5 Test requirement

After step 2 the UE 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.

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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RECONFIGURATION message:

…

2> transmit a RADIO BEARER RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

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

Reference

3GPP TS 25.331 clause 8.2.2.13, 8.2.2.11, 8.2.2.9~~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 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 configuration.

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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid RADIO BEARER RECONFIGURATION message to the UE which contains an unexpected critical message extension~~does not include all IEs except IE "Message Type"~~. 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 "~~ASN.1 violation error or encoding error~~Message extension not comprehended" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. The UE keeps current configuration when SS transmits RADIO BEARER RECONFIGURATION message including some IEs set to give an invalid configuration. The UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	RADIO BEARER RECONFIGURATION	See specific message content.
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.
2a		→	MEASUREMENT REPORT	
3		←	RADIO BEARER RECONFIGURATION	This message includes IE set to invalid value
4		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration
5		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 1)

Use the RADIO BEARER RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation error or encoding error~~Message extension not comprehended

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
- Default DPCH Offset Value - DPCH frame offset	512 1024

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 4)

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
Failure cause	Invalid configuration

8.2.2.15.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, which includes the cause "protocol error" in IE "failure cause" and "~~ASN.1 violation error or encoding error~~Message extension not comprehended" in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

After step 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

If the UE receives:

- a RADIO BEARER RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4

8.2.2.21.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message and enters CELL_PCH state after it receives a RADIO BEARER RECONFIGURATION, which invoke the UE to transit from CELL_DCH to CELL_PCH, from SS.

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 CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enters CELL_PCH state. SS calls for generic procedure C.4 to check that UE is in 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".~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGURATION COMPLETE	
3				The UE is in CELL_PCH state.
~~4~~		~~←~~	~~PAGING TYPE 1~~	~~The SS transmits this message included a matched identity.~~
~~5~~		~~→~~	~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4		←→	CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

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
UTRAN DRX cycle length coefficient	3
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

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
UTRAN DRX cycle length coefficient	3
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 (Packet in PS)" in default message content of TS 34.108 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"

8.2.2.21.5 Test requirement

After step 1 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message 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".~~

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

If the UE receives:

- a RADIO BEARER RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~The UE shall configure radio bearers so as to transit from CELL_DCH state to URA_PCH state according to received RADIO BEARER RECONFIGURATION message.~~

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4

8.2.2.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE and enters 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.

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 CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enters into URA_PCH state. SS calls for generic procedure C.5 to check that UE is in URA_PCH state.~~The SS transmits a PAGING TYPE 1 message and the UE 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	←		RADIO BEARER RECONFIGURATION	
2	→		RADIO BEARER RECONFIGURATION COMPLETE	
3				The UE is in URA_PCH state.
~~4~~	~~←~~		~~PAGING TYPE 1~~	~~The SS transmits this message included a matched identity.~~
~~5~~	~~→~~		~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

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
UTRAN DRX cycle length coefficient	3
Downlink information for each radio link - Primary CPICH info - Primary scrambling code	 100

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	URA_PCH
UTRAN DRX cycle length coefficient	3
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 (Packet in PS)" in default message content of TS 34.108 with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity 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 transmit a RADIO BEARER RECONFIGURATION COMPLETE message 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".~~

8.2.2.25 Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH including modification of previously signalled CELL_DCH configuration

8.2.2.25.1 Definition

8.2.2.25.2 Conformance requirement

If the UE receives:

- a RADIO BEARER RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~Upon receiving a RADIO BEARER RECONFIGURATION message including a request to move to CELL_DCH, the UE shall apply a previously signalled configuration for CELL_DCH, modify the parameters for which reconfiguration was requested in the RADIO BEARER RECONFIGURATION message and transmit a RADIO BEARER RECONFIGURATION COMPLETE message.~~

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.25.3 Test purpose

To confirm that the UE applies a previously signalled configuration for CELL_DCH and in addition modifies the parameters for which reconfiguration is requested in the RADIO BEARER RECONFIGURATION message that is used to initiate transition from CELL_FACH to CELL_DCH.

8.2.2.25.4 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

a) The UE is in CELL_FACH state.

b) The SS transmits a RADIO BEARER RECONFIGURATION message including dedicated physical channel information to request the UE to transit from CELL_FACH to CELL_DCH. Upon receiving this message, the UE establishes the radio bearer and transport channel configuration for CELL_DCH included in a previous RADIO BEARER SETUP message and modifies the parameters for which reconfiguration was requested in the RADIO BEARER RECONFIGURATION message.

c) The UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

d) SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Initiates the transition from CELL_FACH to CELL_DCH
2	→		RADIO BEARER RECONFIGURATION COMPLETE	
3	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message is identical as "RADIO BEARER RECONFIGURATION message" as found in Annex A with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
- RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	No discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	300
- Max_RST	1
- Polling info	
- Timer_poll	100
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Windows	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	100
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	Not Present
- RB mapping info	Not Present
- RB stop/continue	Not Present
- RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- PDCP SN info	Not Present
- RLC info	Same as for RB identity 2
- RB mapping 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	Same as for RB identity 2
- RB mapping info	Not Present
- RB stop/continue	Not Present

RADIO BEARER RECONFIGURATION COMPLETE (Step 2)

The contents of RADIO BEARER RECONFIGURATION COMPLETE message is identical as "RADIO BEARER RECONFIGURATION COMPLETE message" as found in Annex A.

8.2.2.25.5 Test requirement

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

8.2.2.26 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Incompatible Simultaneous Reconfiguration)

8.2.2.26.1 Definition

8.2.2.26.2 Conformance requirement

If the UE receives:

- a RADIO BEARER RECONFIGURATION message; or

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

…

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

1> ignore this second attempt to change the ciphering configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

1> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;

…

If the variable INCOMPATIBLE_SECURITY_RECONFIGURATION is set to TRUE due to the received reconfiguration message, the UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "incompatible simultaneous reconfiguration".

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2.12a, clause 8.6.3.4.

8.2.2.26.3 Test purpose

1. To confirm that the UE ignores the subsequent security reconfiguration information which is contained in the RADIO BEARER RECONFIGURATION message.
2. To confirm that the UE reconfigures according to the SECURITY MODE COMMAND message.
3. To confirm that the UE transmits RADIO BEARER RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC.
4. To confirm that the UE transmits SECURITY MODE COMPLETE message on the uplink DCCH using AM RLC.

8.2.2.26.4 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 SECURITY MODE COMMAND message. SS then transmits a RADIO BEARER RECONFIGURATION message. The UE ignores the RADIO BEARER RECONFIGURATION message and transmits a RADIO BEARER RECONFIGURATION FAILURE message and configures the radio bearers according to the SECURITY MODE COMMAND message. On completion of ciphering reconfiguration, the UE shall transmit a SECURITY MODE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SECURITY MODE COMMAND	This message includes IE "Ciphering mode info".
2	←		RADIO BEARER RECONFIGURATION	SS send this message before the activation time in step 1 expires. This message includes IE "Ciphering mode info".
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE ignores the ciphering mode information in step 2.
4	→		SECURITY MODE COMPLETE	

Specific Message Contents

SECURITY MODE COMMAND (Step 1)

If the initial state of the UE is state 6-9, use the message sub-type in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Ciphering mode info	
- 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 info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	2
- RLC sequence number	Current RLC SN+4
- RB identity	3
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	4
- RLC sequence number	Current RLC SN+X (Note 1)

If the initial state of the UE is state 6-10, use the message sub-type in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Ciphering mode info	
- 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 info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	2
- RLC sequence number	Current RLC SN+4
- RB identity	3
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	4
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	20
- RLC sequence number	Current RLC SN+X (Note 1)

RADIO BEARER RECONFIGURATION (for Step 2)

If the initial state of the UE is state 6-9, use the message sub-type entitled "Speech in CS" or "Non-speech in CS" in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Ciphering mode info	
- 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 info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	2
- RLC sequence number	Current RLC SN+4
- RB identity	3
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	4
- RLC sequence number	Current RLC SN+X (Note 1)

If the initial state of the UE is state 6-10, use the message sub-type entitled "Packet to CELL_DCH from CELL_DCH in PS" in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Ciphering mode info	
- 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 info	
- Radio bearer activation time	
- RB identity	1
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	2
- RLC sequence number	Current RLC SN+4
- RB identity	3
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	4
- RLC sequence number	Current RLC SN+X (Note 1)
- RB identity	20
- RLC sequence number	Current RLC SN+X (Note 1)

Note 1: X is set to 1.

RADIO BEARER RECONFIGURATION FAILURE (for Step 3) (FDD)

Check that the message received is the same as the message sub-type found in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Failure cause	incompatible simultaneous reconfiguration

8.2.2.26.5 Test requirement

After step 2 the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set the failure cause to "incompatible simultaneous reconfiguration".

After step 3 the UE shall transmit a SECURITY MODE COMPLETE message on the DCCH using AM RLC specified in step 1.

8.2.3 Radio Bearer Release

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RELEASE	Including unsupported configuration by the UE
2	→		RADIO BEARER RELEASE FAILURE	The UE does not change the radio bearer.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (FDD) (Step 1)

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 (Nu) - UARFCN downlink (Nd)	 0 950

RADIO BEARER RELEASE (TDD) (Step 1)

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)	 0

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
Failure cause	Configuration unsupported

8.2.3.2.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the radio bearers 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 8.2.2.7, 8.2.2.9, 8.5.4~~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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RELEASE message but it keeps its current dedicated physical channel configuration. This causes the UE to fail to release the radio bearer, and after T312 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RELEASE	
2				The SS keeps its current dedicated physical channel configuration.
3	→		RADIO BEARER RELEASE FAILURE	After T312 expires, the UE finds that it fails to release a radio bearer and reverts to the old configuration.
4	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 1b and 13)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (Step 1)

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 (Step 3)

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
Failure cause	Physical channel failure

8.2.3.3.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 2 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which includes the value "physical channel failure" in IE "failure cause".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

8.2.3.4 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and ~~reversion failure~~cell reselection)

8.2.3.4.1 Definition

8.2.3.4.2 Conformance requirement

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

1> if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

If the CELL UPDATE CONFIRM message:

- does not include "RB information elements"; and

- does not include "Transport channel information elements"; and

- includes "Physical channel information elements":

the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~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 a 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 8.2.2.7, 8.2.2.9, 8.3.1.7~~8.2.3~~.

8.2.3.4.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message after it 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.

Test Procedure

The UE is in CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RELEASE message to the UE but does not configure dedicated physical channel in accordance with the settings in the message and release 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. 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 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 RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "physical channel failure". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	RADIO BEARER RELEASE	
2				The SS does not configure the dedicated physical channel in accordance with the RADIO BEARER RELEASE message and shall release the old configuration.
3		→	CELL UPDATE	This message includes the value "radio link failure" 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		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
7		→	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "physical channel failure"
8		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 8)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (Step 1)

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 Annex A.

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
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0000 0001' "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
U-RNTI RRC State indicator UplinkDPCH Info Downlink information for each radio links	Same as CELL UPDATE message in step 3 CELL_DCH Same as RADIO BEARER SETUP message used to move to intial condition Same as RADIO BEARER SETUP message used to move to intial condition

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
U-RNTI RRC State indicator UplinkDPCH timeslots and codes Downlink information for each radio links	Same as CELL UPDATE message in step 3 CELL_DCH Same as RADIO BEARER SETUP message used to move to intial condition Same as RADIO BEARER SETUP message used to move to intial condition

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
Failure cause	"physical channel failure"

8.2.3.4.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

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

After step 7, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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 received message is any of the messages:

- RADIO BEARER RELEASE; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12~~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 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: 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 RELEASE message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER RELEASE 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".When the activation time lapses, the UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2	←		RADIO BEARER RELEASE	Message sent before the "Activation time" indicated in the message of step 1 has elapsed.
3	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER RELEASE message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

The contents of RADIO BEARER 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	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info - Scrambling code number Downlink information common for all radio links - Downlink DPCH info common for all RL - Timing Indicator	 1 Maintain

RADIO BEARER RECONFIGURATION (TDD)

The contents of RADIO BEARER 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
Uplink DPCH timeslots and codes - First timeslot code list Downlink information common for all radio links - Downlink DPCH info common for all RL - Timing Indicator	 Assigned by SS Maintain

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 Info Uplink DPCH Info - Scrambling code number	Current CFN-[current CFN mod 8 + 8] 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 - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.3.5.5 Test requirement

After step 2 the UE 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 3 the UE shall trasmit a RADIO BEARER RECONFIGURATION COMPLETE 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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which does not include any IEs except IE "Message Type". It shall transmit a RADIO BEARER RELEASE FAILURE message which includes value "protocol error" in IE "failure cause" and value "ASN.1 violation or encoding error" in IE "Protocol error cause". The UE shall keep existing configuration upon reception of a RADIO BEARER RELEASE~~

~~message, which include some IEs set to give an invalid configuration, 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 8.2.2.13, 8.2.2.11, 8.2.2.9~~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 contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~.

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 configuration.

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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid RADIO BEARER RELEASE message to the UE which does not any IEs except IE "Message Type". 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 "~~ASN.1 violation or encoding error~~Message extension not comprehended" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid configuration. The UE keeps current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	RADIO BEARER RELEASE	See specific message content.
2		→	RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.
2a		→	MEASUREMENT REPORT	
3		←	RADIO BEARER RELEASE	This message includes IE set to give an invalid configuration
4				The UE does not change the configuration
5		→	RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration
6		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 1b, 2a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (Step 1)

Use the RADIO BEARER RELEASE message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~ Critical extensions	~~Not Present~~ '01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~Message extension not comprehended

RADIO BEARER RELEASE (Step 3) (FDD)

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
- Default DPCH Offset Value - DPCH frame offset	512 1024

RADIO BEARER RELEASE (Step 3) (TDD)

Information Element	Value/remark
-PRACH TFCS	Present

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
Failure cause	Invalid configuration

8.2.3.6.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall 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 "~~ASN.1 violation or encoding error~~Message extension not comprehended" in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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 configuration unspported by 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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RELEASE 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		RADIO BEARER RELEASE	The message contains a configuration not supported by the UE
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change the radio bearer configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (FDD) (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
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 0 950

RADIO BEARER RELEASE (TDD) (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
Frequency info - UARFCN (Nt)	 0

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
Failure cause	Configuration unsupported

8.2.3.10.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, stating the reason "configuration unsupported" in IE "failure cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.3.11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration)

8.2.3.11.1 Definition

8.2.3.11.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the radio bearers before T312 timer expires and detects the same serving cell only. 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" after it reverts to the old configuration.~~

Reference

3GPP TS 25.331 clause 8.2.2.7, 8.2.2.9, 8.5.4~~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 before T312 timer 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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a RADIO BEARER RELEASE message and keeps its current physical channel configuration. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer expires, 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
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.
4	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 4)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (Step 1)

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

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
Failure cause	Physical channel failure

8.2.3.11.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 2 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell re-selection)

8.2.3.12.1 Definition

8.2.3.12.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.304 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~The UE shall perform a cell update procedure when the UE selects another cell after the detection of physical channel failure 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 8.2.2.7, 8.2.2.9,8.3.1.7, 8.5.4~~8.2.3~~.

8.2.3.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message after it completes a cell update procedure following a physical channel failure during the radio bearer release procedure.

8.2.3.12.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.

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

Test Procedure

Table 8.2.3.12

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

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 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 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 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. The UE shall find cell 2 and transmits 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 then transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC. The UE transmits a 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 specified 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	←		Void	
4	→		CELL UPDATE	The UE finds a new cell 2 and enter CELL_FACH state. This message includes the value "cell reselection" set in IE "Cell update cause".
5	←		CELL UPDATE CONFIRM	See message content.
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	→		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 A with the following exceptions:

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

CELL UPDATE CONFIRM (Step 5)

Use the same message type found in clause Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type is checked.

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
Failure cause	"physical channel failure"

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

After step 6 the UE shall transmit a 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 received message is any of the messages:

- RADIO BEARER RELEASE; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12, ~~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 during a reconfiguring procedure due to a radio bearer message other than a RADIO BEARER RELEASE message, 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 CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE. The SS transmits a RADIO BEARER RELEASE message before the "activation time" indicated in the RADIO BEARER RECONFIGURATION message expires. When the UE receives the RADIO BEARER RELEASEmessage, 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 acknowledges the RADIO BEARER RELEASE 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The UE receives any message other than RADIO BEARER RELEASE. (e.g. RADIO BEARER SETUP)
2	←		RADIO BEARER RELEASE	Sent before the expiry of IE "Activation Time" stated in message in step 1.
3	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration due to the reception of RADIO BEARER RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

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_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 - Scrambling code number	 1

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	Not Present
Uplink DPCH Info	
- Scrambling code number	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 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

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.3.13.5 Test requirement

After step 2 the UE 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 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using the new physical channel parameters reconfigured ú a result of the RADIO BEARER RECONFIGURATION 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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a RADIO BEARER RELEASE message:

…

2> transmit a RADIO BEARER RELEASE FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when the UE receives an invalid RADIO BEARER RELEASE message which 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 error" in IE "Protocol error cause". The UE shall keep existing configuration upon reception of a RADIO BEARER RELEASE message, which includes some IEs set to give an invalid configuration, 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 8.2.2.13, 8.2.2.11, 8.2.2.9~~8.2.3~~.

8.2.3.14.3 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 does not include any IEs except IE "Message Type".

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 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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid RADIO BEARER RELEASE message, which contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~, to the UE. The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which shall indicate the value "protocol error" in IE "failure cause" and also "~~ASN.1 violation or encoding error~~Message extension not comprehended" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. -SS transmits a RADIO BEARER RELEASE message including some IEs set to give an invalid configuration. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1		←	RADIO BEARER RELEASE	See specific message content.
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.
2a	→		MEASUREMENT REPORT	
3		←	RADIO BEARER RELEASE	This message includes IE set to give an invalid configuration.
4				The UE does not change its configuration
5	→		RADIO BEARER RELEASE FAILURE	The IE "failure cause" shall be set to "invalid configuration
6	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 RELEASE (Step 1)

Use the RADIO BEARER RELEASE message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~Message extension not comprehended

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
- Default DPCH Offset Value - DPCH frame offset	512 1024

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)

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
Failure cause	Invalid configuration

8.2.3.14.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also indicating "~~ASN.1 violation or encoding error~~ Message extension not comprehended " in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- RADIO BEARER RELEASE; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

…

~~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 a 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.

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. 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 bearer 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	For FDD, the SS sets its UL scrambling code to "1".
2	←		RADIO BEARER RELEASE	Message sent before the expiry of "activation time" specified in message in step 1. For FDD, the IE "Secondary scrambling code" is set to "2". For TDD the code combination assigned is different from that assigned in stage 1.
3	→		RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and release radio bearer according to the RADIO BEARER RELEASE message in step 1.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 "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
RRC transaction identifier	0
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256
- Uplink DPCH Info - Secondary scrambling code	 1

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
RRC transaction identifier	0
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 "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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Secondary scrambling code	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

8.2.3.16.5 Test requirement

After step 2 the UE shall 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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- RADIO BEARER RELEASE; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

~~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 the radio bearers according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit a 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 CELL_FACH 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. SS calls for generic procedure C.3 ~~2~~ to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	For FDD, the SS sets its UL 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. For TDD the IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different from that assigned in stage 1.
3	→		RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and release radio bearers according to the RADIO BEARER RELEASE message in step 1.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
RRC transaction identifier	0
Activation Time Info - Uplink DPCH Info - Secondary scrambling code	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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
RRC transaction identifier	0
Activation Time Info Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Secondary scrambling code	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

8.2.3.17.5 Test requirement

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

8.2.3.20 Radio Bearer Release for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success

8.2.3.20.1 Definition

8.2.3.20.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS5.304.

1> if the received reconfiguration message included the IE "Primary CPICH info"), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" :

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

1> select PRACH according to TS25.331 subclause 8.5.17;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

2> perform a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.20.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_FACH according to the RADIO BEARER RELEASE message.

2. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.3.20.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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).

~~CS_DCCH+DTCH_DCH (state 6-9) or PS_DTCH+DCCH_DCH (state 6-10) as specified in clause 7.4 of TS 34.108, depending to the CN domain(s) supported by the UE.~~

Test Procedure

Table 8.2.3.20

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.3.20 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.20. The SS modifies the contents of System information block 11 in cell 1, so that include IE ”Inter frequency measurement system information“ about cell 6. The SS and UE execute procedure P3 or P5. Next The SS and the UE execute procedure P7 or P9 and then execute procedure P11 or P13. The SS switches its downlink transmission power settings to columns "T1" ~~and then transmits MEASUREMENT CONTROL message in order for the UE to know information of cell 6. The SS~~ transmits a RADIO BEARER RELEASE message with~~including~~ no ~~new~~ IE “F~~f~~requency info”~~rmation~~ to the UE. The UE releases the radio access bearer and moves into cell 6. The UE transmits CELL UPDATE message with IE "Cell update cause" set to "cell reselection". SS then transmit CELL UDPATE CONFIRM with IE "New C_RNTI". The UE shall respond with an UTRAN MOBILITY INFORMATION CONFIRM message, and then transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC. The SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default settings ~~The initial state of UE is in CELL_DCH state of cell 1~~ and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.20.
1a	←→		SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	
1b	←→		SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.	
1c	←→		SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.	
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.20.
3	~~←~~		~~MEASUREMENT CONTROL~~Void	~~The SS specifies inter-frequency measurement for cell 6.~~
4	←		RADIO BEARER RELEASE	No i~~I~~ncluding ~~new~~ frequency information.
5	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
6	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		RADIO BEARER RELEASE COMPLETE	
9	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

MEASUREMENT CONTROL (Step 3)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 6
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	350
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 s

- Reporting cell status - CHOICH reported cell - Maximum number of reported cells - Parameters required for each non-used frequency - Threshold non-used frequency - W non-used frequency	 Report cells within active and/or monitored set on used frequency or within active and/or monitored set on non-used frequency 2 -85dbm 0.0

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" or "Non speech to CELL_FACH from CELL_DCH in CS" or "Speech to CELL_FACH from CELL_DCH in CS" in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info	Not present
Downlink information for each radio link - UARFCN uplink(Nu) - UARFCN downlink(Nd)	Not present Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6

CELL UPDATE (Step 5)

The contents of CELL UPDATE message are is identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 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 are~~is~~ identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9 with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 7)

The contents of UTRAN MOBILITY UPDATE CONFIRM message are~~is~~ identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.3.20.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

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

After step 7 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 6.

After step 8 the UE shall be in CELL_FACH state of cell 6.

8.2.3.21 Radio Bearer Release from CELL_DCH to CELL_PCH (Frequency band modification): Success

8.2.3.21.1 Definition

8.2.3.21.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info, and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure completed successfully:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.21.3 Test purpose

1. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_DCH to CELL_PCH according to the RADIO BEARER RELEASE message.
3. To confirm that the UE releases the radio access bearer and selects a common physical channel in a different frequency indicated by SS.

8.2.3.21.4 Method of test

Initial Condition

System Simulator: 2 cells–Cells 1 is active and cell 6 is inactive.

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).~~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

Table 8.2.3.21

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.3.21 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.21. The SS modifies the contents of System information block 11 in cell 1, so that include IE "Inter frequency measurement system information" about cell 6. The SS and UE execute procedure P3 or P5. Next The SS and the UE execute procedure P7 or P9 and then execute procedure P11 or P13. The SS switches its downlink transmission power settings to columns "T1" and ~~transmits MEASUREMENT CONTROL message in order for the UE to know information of cell 6. The SS~~ then transmits a RADIO BEARER RELEASE message ~~including~~ with no ~~new~~ IE "F~~f~~requency info"~~rmation~~. The UE transmits a RADIO BEARER RELEASE COMPLETE message using AM RLC and enters CELL_PCH state of cell 6, then the UE shall transmit CELL UPDATE procedure~~message on uplink CCCH~~ with IE "Cell update cause" set to "cell reselection", to complete the procedure. The SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default settings ~~The initial state of UE is in CELL_DCH state of cell 1~~ and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.21.
1a		←→	SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	
1b		←→	SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.	
1c		←→	SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.	
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.21.
3	←		~~MEASUREMENT CONTROL~~Void	~~The SS specifies inter-frequency measurement for cell 6.~~
4	←		RADIO BEARER RELEASE	No i~~I~~ncluding new frequency information.
5	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message before it completes state transition. UE sends this message in cell 1.
6	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
7	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH".
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

~~MEASUREMENT CONTROL (Step 3)~~

~~Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:~~

~~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 Mode~~	~~Event Trigger~~
~~Additional measurements list~~	~~Not Present~~
~~CHOICE measurement type~~	~~Inter-frequency measurement~~
~~- Inter-frequency measurement object list~~	
~~- Inter-frequency cell info list~~	
~~- CHOICE inter-frequency cell removal~~	~~No inter-frequency cells removed~~
~~- New inter-frequency cells~~	
~~- Inter-frequency cell id~~	~~6~~
~~- Frequency info~~	
~~- UARFCN uplink (Nu)~~	~~UARFCN of the uplink frequency for cell 6~~
~~- UARFCN downlink (Nd)~~	~~UARFCN of the downlink frequency for cell 6~~
~~- Cell info~~	
~~- Cell individual offset~~	~~0 dB~~
~~- Reference time difference to cell~~	~~0 chips~~
~~- Read SFN Indicator~~	
~~- CHOICE Mode~~	~~FDD~~
~~- Primary CPICH Info~~	
~~- Primary Scrambling Code~~	~~350~~
~~- Primary CPICH TX power~~	~~Not Present~~
~~- Primary CPICH TX power~~	
~~- TX Diversity Indicator~~	~~Not Present~~
~~- Cell for measurement~~	~~Not Present~~
~~- Inter-frequency measurement quantity~~	

- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 s
- Reporting cell status	
- CHOICH reported cell	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
- Parameters required for each non-used frequency	
- Threshold non-used frequency	-85dbm
- W non-used frequency	0.0

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" or "Non speech to CELL_FACH from CELL_DCH in CS" or "Speech to CELL_FACH from CELL_DCH in CS" in [9] TS 34.108 clause 9, with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link - UARFCN uplink (Nu)	Not present Same uplink UARFCN as used for cell 6
- UARFCN downlink (Nd)	Same downlink UARFCN as used for cell 6

CELL UPDATE (Step 6)

The contents of CELL UPDATE message are is identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9, with the following exceptions:

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

CELL UPDATE CONFIRM (Step 7)

The contents of CELL UPDATE CONFIRM message are~~is~~ identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
RRC State indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.3.21.5 Test requirement

After step 4 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on uplink DCCH using AM RLC in cell 1.

After step 5 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection" in cell 6.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.4 Transport channel reconfiguration

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

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATIONmessage; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~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 8.2.2.3, 8.2.2.4.

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 radio bearer is placed into UE test loop mode 1 described in 34.109 clause 5.3 and the UL RLC_SDU size for the loopback scheme is set to the maximum size possible when the maximum uplink TFS, as indicated in RADIO BEARER SETUP message during radio bearer establishment procedure, is used. 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. UL MAC restriction is imposed on the SS so that SS can only received using the maximum TFS and minimum TFS. Both TFSs belong to the restricted TFCS(i.e. the TFCS after reconfiguration). In this procedure SS transmits a RLC_SDU whose size is the same as the UL RLC_SDU size for the loopback scheme . The UE shall selects the maximum uplink TFS in the restricted TFCS(i.e. the TFCS after reconfiguration) on the radio access bearer. The SS should receive the expected data as a RLC_SDU that is sent back by UE. 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	
2	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
2a	←		DOWNLINK RLC SDU	
2b	→		UPLINK RLC SDU	
3	←		TRANSPORT CHANNEL RECONFIGURATION	
4	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
UL Transport channel information for all transport channels	Not Present
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 2a the UE shall transmit a RLC_SDU that is same as the transmitted data from SS in step 2a on the radio access bearer.

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

~~8.2.4.1a Void 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~~

~~If the UE receives:~~

~~- a TRANSPORT CHANNEL RECONFIGURATIONmessage; or~~

~~it shall:~~

~~1> perform the physical layer synchronisation procedure as specified in TS 25.214;~~

~~1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.~~

~~The UE shall then:~~

~~1> enter a state according to TS 25.331 subclause 8.6.3.3.~~

~~If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:~~

~~1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;~~

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

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 8.2.2.3, 8.2.2.48.2.4.

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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	
2	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
3	←		TRANSPORT CHANNEL RECONFIGURATION	
4	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
UL Transport channel information for all transport channels	Not Present
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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9~~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: 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes configuration parameters unsupported 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1	←		TRANSPORT CHANNEL RECONGURATION	Including configuration unsupported by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channels.
3		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT CHANNEL RECONFIGURATION (FDD) (Step 1)

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 uplink(Nu) - UARFCN downlink (Nd)	 0. 950

TRANSPORT CHANNEL RECONFIGURATION (TDD) (Step 1)

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)	 0

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
Failure cause	Configuration unsupported

8.2.4.2.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration unsupported" in IE "failure cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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 received message is any of the messages:

- TRANSPORT CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12, ~~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 during a reconfiguring procedure due to a radio bearer message other than a 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: 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 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 TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with IE "failure cause" set to "incompatible simultaneous reconfiguration". After the SS acknowledges the TRANSPORT CHANNEL RECONFIGURATION FAILURE message, the UE reconfigures the new physical configuration parameters upon the activation time and transmits a RADIO BEARER RECONFIGURATION COMPLETE message on DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info" for FDD mode
2	←		TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3	→		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.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

For RADIO BEARER RECONFIGURATION 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 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)

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 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 following exceptions:

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

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.4.5.5 Test requirement

After step 2 the UE 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 3 the UE transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the new coniguration specified in step 1.

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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which does not include any IEs except IE "Message Type". Then it shall transmit a~~

~~TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE "failure cause" and also "ASN.1 violation or encoding error" in IE "Protocol error cause". The UE shall keep existing configuration upon reception of a TRANSPORT CHANNEL RECONFIGURATION message, which includes some IEs set to give an invalid configuration, and then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message including IE "failure cause" set to "invalid configuration".~~

Reference

3GPP TS 25.331 clause 8.2.2.13, 8.2.2.11, 8.2.2.9~~8.2.4~~.

8.2.4.6.3 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 which does not include any IEs except IE "Message Type".

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 configuration..

8.2.4.6.4 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message to the UE, which contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~. 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~~ Message extension not comprehended " in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid configuration. The UE keeps current configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "invalid configuration" to IE "failure cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1	←		TRANSPORT CHANNEL RECONFIGURATION	See specific message content.
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change its configuration.
2a		→	MEASUREMENT REPORT	
3	←		TRANSPORT CHANNEL RECONFIGURATION	This message includes IE set to give an invalid configuration
4				The UE does not change its configuration
5	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration
6		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the TRANSPORT CHANNEL RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~ Critical extensions	~~Not Present~~ '01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~ Message extension not comprehended

TRANSPORT CHANNEL RECONFIGURATION (Step 3) (FDD)

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
- Default DPCH Offset Value - DPCH frame offset	512 1024

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)

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
Failure cause	Invalid configuration

8.2.4.6.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall 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 "~~ASN.1 violation or encoding error~~ Message extension not comprehended " in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 8.2.2.6, 8.2.2.9.~~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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. ~~-~~The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes configuration parameters unsupported 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		TRANSPORT CHANNEL RECONGURATION	The message includes configuration unsupported by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change its configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT CHANNEL RECONFIGURATION (FDD) (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" as found in Annex A with the following exceptions:

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

TRANSPORT CHANNEL RECONFIGURATION (TDD) (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" as found in Annex A with the following exceptions:

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

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
Failure cause	Configuration unsupported

8.2.4.11.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall 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.

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.4.12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old channel)

8.2.4.12.1 Definition

8.2.4.12.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message to UTRAN.~~

Reference

3GPP TS 25.331 clause 8.2.2.7, 8.2.2.9, 8.5.4~~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 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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes the new transport channel parameters, to the UE. However, SS keeps its current physical channel configuration.. Hence, the UE shall experience a failure in the reconfiguration process. After T312 expires, 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1		←	TRANSPORT CHANNEL RECONGURATION	Message includes IE "Downlink DPCH Info" and IE "Uplink DPCH Info"
2				SS does not reconfigure the channel causing the UE to detect a physical channel failure.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expires the UE shall revert to the old configuration and transmit this message.
4		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 4)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

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

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
Failure cause	Physical channel failure

8.2.4.12.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 2 the UE shall transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.4.13 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell re-selection)

8.2.4.13.1 Definition

8.2.4.13.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.304 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

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:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 the cell update procedure, the UE transmits 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 8.2.2.7, 8.2.2.9,8.3.1.7, 8.5.4~~8.2.4~~.

8.2.4.13.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message after it completes a cell update procedure, when the UE cannot reconfigure the new channel before timer T312 expires.

8.2.4.13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.

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

Test Procedure

Table 8.2.4.13

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

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 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 CELL_FACH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new configurationparameters. However, the SS does not reconfigure the specified configuration. At the same time, the SS configures its downlink transmission power settings according to columns "T1" in table 8.2.4.13. As a result, the UE cannot synchronise with the SS on the new DPCH before T312 expires. The UE initiates the cell re-selection procedure 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 then transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC. The UE transmits a TRANSPORT 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	←		TRANSPORT CHANNEL RECONFIGURATION	
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			Void	
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	See message content.
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		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 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)

Use the same message type found in clause Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 7)

Only the message type is checked.

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
Failure cause	"physical channel failure"

8.2.4.13.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "cell reselection" in cell 2.

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

After step 7 the UE shall transmit a 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 received message is any of the messages:

- TRANSPORT CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12~~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 during a reconfiguring procedure due to a radio bearer message other than a 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 CELL_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 its current configuration as if it had not received the TRANSPORT CHANNEL RECONFIGURATION 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 the SS acknowledges the 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
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 reconfigure according to the TRANSPORT CHANNEL RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 with the following exceptions

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

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 Uplink DPCH timeslots and codes - First timeslot code list	Current CFN-[current CFN mod 8 + 8] 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" as found in Annex A with the following exceptions:

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

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 - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination that used previously .

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.4.14.5 Test requirement

After step 2 the UE 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 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE 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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a TRANSPORT CHANNEL RECONFIGURATION message:

…

2> transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when the UE receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which does not includes any IEs except IE "Message Type". The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE "failure cause" and also "ASN.1 violation or encoding error" in IE "Protocol error cause". The UE shall keep existing configuration upon the reception of a TRANSPORT CHANNEL RECONFIGURATION message, which includes some IEs set to give an invalid configuration, 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 8.2.2.13, 8.2.2.11, 8.2.2.9~~8.2.4~~.

8.2.4.15.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives an invalid TRANSPORT CHANNEL RECONFIGURATION message which does not include any IEs except IE "Message Type".

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 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 CELL_FACH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid TRANSPORT CHANNEL RECONFIGURATION message, which contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~, to the UE. 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~~ Message extension not comprehended " in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits TRANSPORT CHANNEL RECONFIGURATION message including some IEs set to give an invalid configuration. The UE keeps its current configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b		→	MEASUREMENT REPORT	
1	←		TRANSPORT CHANNEL RECONFIGURATION	See specific message content.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change its configuration.
2a		→	MEASUREMENT REPORT	
3	←		TRANSPORT CHANNEL RECONFIGURATION	This message includes IEs which is set to give an invalid configuration
4				The UE does not change its configuration.
5	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The IE "failure cause" shall be set to "invalid configuration
6		→	MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the TRANSPORT CHANNEL RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~ Critical extensions	~~Not Present~~ '01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~ Message extension not comprehended

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" as found in Annex A with the following exceptions:

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

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)

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
Failure cause	Invalid configuration

8.2.4.15.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 1 the UE shall 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 "~~ASN.1 violation or encoding error~~ Message extension not comprehended " in IE "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- TRANSPORT CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

…

~~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 a 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: 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. 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 ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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.
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 the 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 configures according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1) (FDD)

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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Scrambling code number	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 Assigned in step 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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Scrambling code number	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

8.2.4.18.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- TRANSPORT CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

~~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 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 ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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.
2	←		TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1. For FDD the 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 configures according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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
RRC transaction identifier	0
Activation Time Info - Uplink DPCH Info - Scrambling code number	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 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
RRC transaction identifier	0
Activation Time - Uplink DPCH Info - Scrambling code number	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

8.2.4.19.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

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

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invoke the UE to transits from CELL_DCH to CELL_PCH. And then, the UE shall enter CELL_PCH state.~~

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4~~8.2.4~~.

8.2.4.20.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and enters CELL_PCH state after it receives a TRANSPORT CHANNEL RECONFIGURATION message, which invoke the UE to transit from CELL_DCH to CELL_PCH.

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 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 using AM RLC and enters 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".~~ SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
3				The UE is in CELL_PCH state.
~~4~~		~~←~~	~~PAGING TYPE 1~~	~~The SS transmits this message included a matched identity.~~
~~5~~	~~→~~		~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

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
UTRAN DRX cycle length coefficient Downlink information for each radio link - Primary CPICH info - Primary scrambling code	3 100

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
UTRAN DRX cycle length coefficient - Primary CCPCH info - Cell parameters ID	3 4

PAGING TYPE 1 (Step 4)

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
Paging record list Paging record - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity Previously assigned SRNC identity 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 shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message 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".~~

8.2.4.22 Transport Channel Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.4.22.1 Definition

8.2.4.22.2 Conformance requirement

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invokes the UE to transit from CELL_FACH to CELL_PCH. And then, the UE shall enter CELL_PCH state~~

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4~~8.2.4~~

8.2.4.22.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and enters CELL_PCH state after it receives a TRANSPORT CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_FACH to CELL_PCH state.

8.2.4.22.4 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 TRANSPORT CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_FACH to CELL_PCH. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters CELL_PCH state. SS calls for generic procedure C.4 to check that UE is in 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".~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
3				The UE is in CELL_PCH state.
~~4~~		~~←~~	~~PAGING TYPE 1~~	~~The SS transmits this message included a matched identity.~~
~~5~~		~~→~~	~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4		←→	CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL 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
UTRAN DRX cycle length coefficient	3
Physical channel information	Not Present

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (Packet in PS)" in default message contents of TS 34.108 with following exceptions:

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

CELL UPDATE (step 5)

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

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.4.22.5 Test requirement

After step 1 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC.

~~After step 4 the UE shall transmit CELL UPDATE message on uplink CCCH with IE "Cell update cause" set to "paging response".~~

8.2.4.23 Transport Channel Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.4.23.1 Definition

8.2.4.23.2 Conformance requirement

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message; or

it shall:

1> perform the physical layer synchronisation procedure as specified in TS 25.214;

1> act upon all received information elements as specified in TS 25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS 25.331 subclause 8.6.3.3.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS 25.304 on that frequency.

1> select Secondary CCPCH according to TS 25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS 25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> set the variable INVALID_CONFIGURATION to TRUE.

…

The UE shall transmit a response message as specified in TS 25.331 subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

~~The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invokes the UE to and transits from CELL_FACH to URA_PCH. And then, the UE shall enter URA_PCH state.~~

Reference

3GPP TS 25.331 clause 8.2.2.3, 8.2.2.4~~8.2.4~~

8.2.4.23.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and enters URA_PCH state after it receives a TRANSPORT CHANNEL RECONFIGURATION message which invokes the UE to transit from CELL_FACH to CELL_PCH.

8.2.4.23.4 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 TRANSPORT CHANNEL RECONFIGURATION message which invokes the UE to transit from CELL_FACH to CELL_PCH. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters URA_PCH state. SS calls for generic procedure C.5 to check that UE is in 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".~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
3				The UE is in URA_PCH state.
~~4~~		~~←~~	~~PAGING TYPE 1~~	~~The SS transmits this message included a matched identity.~~
~~5~~		~~→~~	~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4		←→	CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL 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
UTRAN DRX cycle length coefficient	3
Physical channel information	Not Present

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled "TM (Packet in PS)" in default message contents of TS 34.108 with following exceptions:

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

CELL UPDATE (step 5)

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

Information Element	Value/remark
Cell Update Cause	"paging response"

8.2.4.23.5 Test requirement

After step 1 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message 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".~~

8.2.4.24 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Success with uplink transmission rate modification

8.2.4.24.1 Definition

8.2.4.24.2 Conformance requirement

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message:

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.24.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after reconfigure its available uplink TFC according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.24.4 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 CELL_DCH state of cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE to modify the transmission rate. This message includes a new uplink transport channel information in order to restricts available uplink TFC within assigned uplink TFCS. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after reconfiguring its transport channel parameters. Next the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE which includes a new uplink transport channel information in order to reconfigure uplink TFCS. The UE transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after reconfiguring its transport channel parameters according to the TRANSPORT CHANNEL RECONFIGURATION message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state of cell 1.
2	←		TRANSPORT CHANNEL RECONFIGURATION	This message includes the IE"TFC subset" and don't include UL/DL physical channel information.
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
4	←		TRANSPORT CHANNEL RECONFIGURATION	
5	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
UL Transport channel information for all transport channels	
- CHOICE mode	FDD
- TFC subset	
- CHOICE Subset representation	Allowed transport format combination list
- Allowed transport format combination	Indicate TFCs which are a part of the TFCS defined in this message to restrict uplink allowed TFC subset.
- UL DCH TFCS	Same contents as a RADIO BEARER SETUP message used in initial procedure.
CHOICE channel requirement	Not present
Downlink information per radio link list	Not present

TRANSPORT CHANNEL RECONFIGURATION (Step 4)

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
UL Transport channel information for all transport channels	
- CHOICE mode	FDD
- TFC subset	
- UL DCH TFCS	Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure.
CHOICE channel requirement	Uplink DPCH info
- Uplink DPCH power control info	Same contents as a RADIO BEARER SETUP message used in initial procedure
- CHOICE mode	FDD
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure.
- TFCI existence	Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure.
- Number of FBI bit	Not Present
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure.
Downlink information per radio link list	Not present

8.2.4.24.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

After step 4 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.4.25 Transport channel reconfiguration from CELL_FACH to CELL_DCH (Frequency band modification): Success

8.2.4.25.1 Definition

8.2.4.25.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> remove any C-RNTI from MAC;

1> clear the C_RNTI.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.25.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_DCH according to TRANSPORT CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION message on the uplink DCCH using AM RLC on dedicated physical channel in a different frequency.

8.2.4.25.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Test Procedure

Table 8.2.4.25

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-55	Off	-55

Table 8.2.4.25 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 CELL_FACH state of ce11 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.25. The SS switches its downlink transmission power settings to columns "T1" and transmits a TRANSPORT CHANNEL RECONFIGURATION message, which includes new frequency information leading to a state transition from CELL_FACH to CELL_DCH in cell 6. The UE shall reconfigure transport channel parameter and frequency band according to this message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC in cell 6. The SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.25.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.25.
3	←		TRANSPORT CHANNEL RECONFIGURATION	
4				Reconfiguration of transport channel.
5	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message in cell 6.
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	350

8.2.4.25.5 Test requirement

After step 4 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 5 the UE shall be in CELL_DCH state of cell 6.

8.2.5 Transport format combination control

8.2.5.3 Void

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

If the TRANSPORT FORMAT COMBINATION CONTROL message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the uplink DCCH using AM RLC setting the information elements as specified below:

2> set the IE "RRC transaction identifier" in the TRANSPORT FORMAT COMBINATION CONTROL FAILURE message to the value of "RRC transaction identifier" in the entry for the TRANSPORT FORMAT COMBINATION CONTROL message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

1> when the TRANSPORT FORMAT COMBINATION CONTROL FAILURE message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid TRANSPORT FORMAT COMBINATION CONTROL message has not been received;

2> and the procedure ends.

If the variable INVALID_CONFIGURATION is set to TRUE due to the received TRANSPORT FORMAT COMBINATION CONTROL message the UE shall:

1> if the TRANSPORT FORMAT COMBINATION CONTROL message was received on AM RLC:

2> keep the TFC subset existing before the TRANSPORT FORMAT COMBINATION CONTROL message was received;

2> transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC;

2> set the IE "RRC transaction identifier" in the TRANSPORT FORMAT COMBINATION CONTROL FAILURE message to the value of "RRC transaction identifier" in the entry for the TRANSPORT FORMAT COMBINATION CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "invalid configuration";

2> when the TRANSPORT FORMAT COMBINATION CONTROL FAILURE message has been submitted to lower layers for transmission the procedure ends.

1> if the TRANSPORT FORMAT COMBINATION CONTROL message was received on UM RLC:

2> ignore the TRANSPORT FORMAT COMBINATION CONTROL message.

~~The UE shall keep 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 "ASN.1 violation or encoding error" in IE "Protocol error cause". The UE shall keep existing configuration upon the reception of a TRANSPORT FORMAT COMBINATION CONTROL message, which includes some IEs set to give an invalid configuration, 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 8.2.5.4, 8.2.5.5

8.2.5.4.3 Test purpose

To confirm after the UE receives an invalid TRANSPORT FORMAT COMBINATION CONTROL message, it transmits a 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 configuration.

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 state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid TRANSPORT FORMAT COMBINATION CONTROL message which does not include any IEs except IE "Message Type". The UE shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message which is set to "ASN.1 violation or encoding error" in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message including some IEs set to get an invalid configuration. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1				UE is in CELL_DCH state with a DCH for a signalling radio bearer and a DCH for a radio access bearer.
2	←		TRANSPORT FORMAT COMBINATION CONTROL	See specific message content.
3	→		~~TRANSPORT FORMAT COMBINATION CONTROL FAILURE~~ RRC STATUS	The UE shall not change its configuration
3a	→		MEASUREMENT REPORT	
4	←		TRANSPORT FORMAT COMBINATION CONTROL	This message includes IEs set to give an invalid configuration.
5	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change its configuration
6	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 3a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

TRANSPORT FORMAT COMBINATION CONTROL (Step 2)

Information Element	Value/remark
All IEs	Not Present

~~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 cause~~	~~ASN.1 violation or encoding error~~

RRC STATUS (Step 3)

Information Element	Value/remark
Message Type	
Protocol Error Information	
- Protocol Error Cause	ASN.1 violation or encoding

TRANSPORT FORMAT COMBINATION CONTROL (Step 5)

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 - Restricted TrCH information - Uplink transport channel type - Restricted UL TrCH identity - Allowed TFI	 DCH 15 (for RACH transport channel identity) 0

TRANSPORT FORMAT COMBINATION CONTROL FAILURE (Step 6)

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	Invalid configuration

8.2.5.4.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 2 the UE shall 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 "ASN.1 violation or encoding error" in IE "protocol error information".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 4 the UE shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

8.2.6 Physical channel reconfiguration

8.2.6.2 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (code modification): Failure (Unsupported configuration)

8.2.6.2.1 Definition

8.2.6.2.2 Conformance requirement

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its 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 8.2.2.6, 8.2.2.9~~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: 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes configuration parameters unsupported 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		PHYSICAL CHANNEL RECONFIGURATION	Includes configuration unsupported by the UE
2	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not reconfigure and continue to communicate using the old configuration.
3	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 3)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

PHYSICAL CHANNEL RECONFIGURATION (FDD) (Step 1)

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
Frequency info - UARFCN uplink (Nu) - UARFCN downlink (Nd)	 0 950

PHYSICAL CHANNEL RECONFIGURATION (TDD) (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
Frequency info - UARFCN (Nt)	 0

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
Failure cause	Configuration unsupported

8.2.6.2.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unsupported" in IE "failure cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (code modification): Failure (Physical channel failure and reversion to old channel)

8.2.6.3.1 Definition

8.2.6.3.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel before 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 8.2.2.7, 8.2.2.9, 8.5.4~~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 before timer T312 expiry.

8.2.6.3.4 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 CELL_DCH state. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes new UL scrambling code . However, the SS keeps its current dedicated physical channel configuration. The UE fails to synchronise with the SS on the new physical channel and after T312 timer 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		PHYSICAL CHANNEL RECONFIGURATION	Including a new UL scrambling code for FDD and First timeslot code list for TDD.
2				The SS does not reconfigure the physical channel so that the UE fails to synchronise on the new physical channel.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expires, the UE shall revert to the old configuration and transmits this message.
4	→		MEASUREMENT REPORT	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (FDD) (Step 1)

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	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

PHYSICAL CHANNEL RECONFIGURATION (TDD) (Step 1)

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

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
Failure cause	Physical channel failure

8.2.6.3.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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".

After step 3, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

8.2.6.4 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (code modification): Failure (Physical channel failure and ~~reversion failure~~cell reselection)

8.2.6.4.1 Definition

8.2.6.4.2 Conformance requirement

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

1> if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:

2> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "radio link failure";

2> after the cell update procedure has completed successfully:

3> proceed as below.

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

If the CELL UPDATE CONFIRM message:

- does not include "RB information elements"; and

- does not include "Transport channel information elements"; and

- includes "Physical channel information elements":

the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message using AM RLC.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 the cell update procedure, the UE transmits a PHYSICAL CHANNEL 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 8.2.2.7, 8.2.2.9, 8.3.1.7~~8.2.6~~.

8.2.6.4.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message after UE completes a cell update procedure when the UE fails synchronise on the old physical channel after the UE cannot synchronise on the new physical channel according to the received PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.4.4 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.

Test Procedure

The UE is in CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new UL scrambling code, but the SS does not configure the new physical channel and release the

old configuration. The UE fails to synchronise on 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 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 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			Void	
2			Void	
3	←		PHYSICAL CHANNEL RECONFIGURATION	The message includes new UL scrambling code for FDD and First timeslot code list for TDD .
4				SS does not configure any dedicated physical channel and 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	→		CELL UPDATE	This message includes the value "radio link failure" set in IE "Cell update cause".
6	←		CELL UPDATE CONFIRM	This message includes 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	→		PHYSICAL CHANNELRECONGURATION FAILURE	The IE "failure cause" shall be set to "physical channel failure"

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3) (FDD)

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	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

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 A for FDD and Annex A for TDD 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 A 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

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-RNTI	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)

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
Failure cause	"physical channel failure"

8.2.6.4.5 Test requirement

After step 4 the UE shall transmits a CELL UPDATE message using RLC-TM mode on the uplink CCCH with IE "Cell update cause" set to "radio link failure".

After step 7 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit a 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 (code modification): Failure (Incompatible simultaneous reconfiguration)

8.2.6.5.1 Definition

8.2.6.5.2 Conformance requirement

If the received message is any of the messages:

- PHYSICAL CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in subclause TS 25.331 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12~~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 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: 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 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 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2	←		PHYSICAL CHANNEL RECONFIGURATION	Sent before the "activation time" specified in the message in step 1 has elapsed.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of a PHYSICAL CHANNEL RECONFIGURATION message.
4	→		RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1) (FDD)

For RADIO BEARER RECONFIGURATION 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 following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

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 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	
- Scrambling code number	2
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain

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)

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
Failure cause	Incompatible simultaneous reconfiguration

8.2.6.5.5 Test requirement

After step 2 the UE 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 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC on the DCCH.

8.2.6.6 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (code modification): Failure (Invalid message reception and Invalid configuration)

8.2.6.6.1 Definition

8.2.6.6.2 Conformance requirement

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

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

Reference

3GPP TS 25.331 clause 8.2.2.13, 8.2.2.11, 8.2.2.9~~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 does not include any IEs except IE "Message Type".

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 configuration.

8.2.6.6.4 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE,

which contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~. 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 error~~ Message extension not comprehended " in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits a PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid configuration. 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1	←		PHYSICAL CHANNEL RECONFIGURATION	See specific message content.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change its configuration.
2a	→		MEASUREMENT REPORT	
3	←		PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which is set to give an invalid configuration
4				The UE does not change its configuration
5	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration
6	→		MEASUREMENT REPORT	

Specific Message Contents

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b, 2a and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the PHYSICAL CHANNEL RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All Es~~	~~Not Present~~
Critical extensions	'01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~ Message extension not comprehended

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 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
- Default DPCH Offset Value - DPCH frame offset	512 1024

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)

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
Failure cause	Invalid configuration

8.2.6.6.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 1 the UE shall 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" in IE~~ Message extension not comprehended "Protocol error cause".

After step 2, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

If the UTRAN instructs the UE to use a configuration, which it does not support and/or if the received message causes the variable UNSUPPORTED_CONFIGURATION to be set to TRUE, the UE shall:

1> transmit a failure response as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "configuration unsupported".

1> set the variable UNSUPPORTED_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall keep its old configuration when it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies configuration parameters unsupported 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 8.2.2.6, 8.2.2.9~~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_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported frequency for the UE. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration unsupported" in IE "failure cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

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
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
3a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
3b	→		MEASUREMENT REPORT	
4	←		PHYSICAL CHANNEL RECONFIGURATION	Includes unsupported frequencies for the UE
5	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel configuration, this message shall be sent using the old configuration.
6	→		MEASUREMENT REPORT	

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.

MEASUREMENT CONTROL (Step 3a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 3b and 6)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

PHYSICAL CHANNEL RECONFIGURATION (Step ~~3~~4) (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" as found in Annex A with the following exceptions:

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

PHYSICAL CHANNEL RECONFIGURATION (Step ~~3~~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
Frequency info - UARFCN (Nt)	 0

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
Failure cause	Configuration unsupported

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 3a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, the IE "failure cause" shall be set to "configuration unsupported".

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.6.11 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and successful reversion to old configuration)

8.2.6.11.1 Definition

8.2.6.11.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel before timer T312 expires 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 8.2.2.7, 8.2.2.9, 8.5.4~~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 before the T312 expiry.

8.2.6.11.4 Method of test

Initial Condition

System Simulator: 1 cell

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

Test Procedure

The UE is in 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to invoke the UE to transit from CELL_FACH to CELL_DCH. However, the SS keeps its current physical channel configuration and then the UE cannot synchronise with the SS. After T312 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 "physical channel failure" in IE "failure cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

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
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
3a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
3b	→		MEASUREMENT REPORT	
4	←		PHYSICAL CHANNEL RECONFIGURATION	
5				The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
6	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expires the UE reverts to the old configuration and transmits this message.
7	→		MEASUREMENT REPORT	

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 for FDD and Annex A for TDD.

MEASUREMENT CONTROL (Step 3a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 3b and 7)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

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 (Step 6)

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
Failure cause	Physical channel failure

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 3a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 5 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "physical channel failure" in IE "failure cause".

After step 6, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and cell re-selection)

8.2.6.12.1 Definition

8.2.6.12.2 Conformance requirement

When a physical dedicated channel establishment is initiated by the UE, the UE shall start a timer T312 and wait for layer 1 to indicate N312 "in sync" indications. On receiving N312 "in sync" indications, the physical channel is considered established and the timer T312 is stopped and reset.

If the timer T312 expires before the physical channel is established, the UE shall consider this as a "physical channel establishment failure".

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

1> revert to the configuration prior to the reception of the message (old configuration);

…

1> if the old configuration does not include dedicated physical channels (CELL_FACH state):

2> select a suitable UTRA cell according to TS 25.304;

2> if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:

3> initiate a cell update procedure according to TS 25.331 subclause 8.3.1, using the cause "Cell reselection";

3> after the cell update procedure has completed successfully:

4> proceed as below.

1> transmit a failure response message as specified in TS 25.304 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "physical channel failure".

1> set the variable ORDERED_RECONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

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
- does not include "CN information elements"; and
- does not include the IE "Ciphering mode info"; and
- does not include the IE "Integrity protection mode info"; and
- does not include the IE "New C-RNTI"; and
- does not include the IE "New U-RNTI":

the UE shall:

1> transmit no response message.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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 a PHYSICAL 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 8.2.2.7, 8.2.2.9,8.3.1.7, 8.5.4~~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 a 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 and 2 are active.

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

Test Procedure

Table 8.2.6.12

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

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 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 CELL_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 new physical channel before timer T312 expires and reselect cell 2 and then the UE shall transmit 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 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	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		PHYSICAL CHANNEL RECONFIGURATION	
5				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.
6			Void	
7	→		CELL UPDATE	This message includes the value "cell reselection" set in IE "Cell update cause".
8	←		CELL UPDATE CONFIRM	
9			Void	
10	→		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 for FDD and Annex A for TDD.

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

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 7)

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 8)

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

PHYSICAL CHANNEL RECONGURATION FAILURE (Step 10)

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
Failure cause	"physical channel failure"

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 6 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 9 the UE shall transmit a 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 received message is any of the messages:

- PHYSICAL CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

…

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

…

3> else:

4> reject the transaction; and

4> if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable TRANSACTIONS:

5> store the IE "Message type" and the IE "RRC transaction identifier" of the received message in the table "Rejected transactions" in the variable TRANSACTIONS.

…

If the table "Rejected transactions" in the variable TRANSACTIONS is set due to the received message and the variable PROTOCOL_ERROR_REJECT is set to FALSE, the UE shall:

1> not apply the configuration contained in the received reconfiguration message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to "incompatible simultaneous reconfiguration".

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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.~~

Reference

3GPP TS 25.331 clause 8.2.2.9, 8.2.2.12 ,~~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 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_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in 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 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 its 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 UE transmits 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. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
4		←	RADIO BEARER RECONFIGURATION	
5		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the frame number specified in IE "Activation time" of the message dispatched in step 4.
6		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration due to the reception of PHYSICAL CHANNEL RECONFIGURATION message.
7		→	RADIO BEARER RECONFIGURATION COMPLETE	This message is on DCCH using AM RLC.
8		←→	CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 4) (FDD)

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	
- Scrambling code number	1

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 5) (FDD)

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 Info	Not Present
Uplink DPCH info	
- Scrambling code number	2

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 6)

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
Failure cause	Incompatible simultaneous reconfiguration

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 5 the UE 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 6 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on 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

If the received reconfiguration message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

2> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Rejected transactions" in the variable TRANSACTIONS; and

2> clear that entry;

2> set the IE "failure cause" to the cause value "protocol error";

2> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION.

If the variable INVALID_CONFIGURATION is set to TRUE the UE shall:

1> keep the configuration existing before the reception of the message;

1> transmit a failure response message as specified in TS 25.331 subclause 8.2.2.9, setting the information elements as specified below:

2> include the IE "RRC transaction identifier"; and

3> set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

3> clear that entry.

2> set the IE "failure cause" to "invalid configuration".

1> set the variable INVALID_CONFIGURATION to FALSE;

1> continue with any ongoing processes and procedures as if the reconfiguration message was not received.

The UE shall:

1> in case of reception of a PHYSICAL CHANNEL RECONFIGURATION message:

…

2> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE as response message on the DCCH using AM RLC.

~~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". It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, set "protocol error" in IE "failure cause" and also set "ASN.1 violation or encoding error" in IE "Protocol error cause". The UE shall keep existing configuration upon reception of a PHYSICAL CHANNEL RECONFIGURATION message, which includes some IEs which are set to give~~

~~an invalid configuration, and then the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE including IE "failure cause" set to "invalid configuration"~~

Reference

3GPP TS 25.331 clause 8.2.2.13, 8.2.2.11, 8.2.2.9~~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 does not include any IEs except IE "Message Type".

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 which are set to give an invalid configuration.

8.2.6.14.4 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 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. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. The SS transmits an invalid PHYSICAL CHANNEL RECONFIGURATION message to the UE which contains an unexpected critical message extension~~does not include any IEs except IE "Message Type"~~. 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~~ Message extension not comprehended " in IE "Protocol error cause". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS transmits PHYSICAL CHANNEL RECONFIGURATION message including some IEs which are set to give an invalid 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". UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically.

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
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
3a		←	MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
3b		→	MEASUREMENT REPORT	
4	←		PHYSICAL CHANNEL RECONFIGURATION	See specific message content.
5	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.
5a		→	MEASUREMENT REPORT	
6	←		PHYSICAL CHANNEL RECONFIGURATION	This message includes IEs which are set to give an invalid configuration.
7				The UE does not change the configuration
8	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The IE "failure cause" shall be set to "invalid configuration
9		→	MEASUREMENT REPORT	

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 for FDD and Annex A for TDD.

MEASUREMENT CONTROL (Step 3a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 3b, 5a and 9)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the PHYSICAL CHANNEL RECONFIGURATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error ~~ASN.1 violation or encoding error~~ Message extension not comprehended

PHYSICAL CHANNEL RECONFIGURATION (Step 6) (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" as found in Annex A with the following exceptions:

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

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 7)

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
Failure cause	Invalid configuration

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 3a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 4 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 "~~ASN.1 violation or encoding error~~ Message extension not comprehended " in IE "Protocol error cause".

After step 5, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

After step 7 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting IE "failure cause" to "invalid configuration".

After step 8, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

8.2.6.17 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (code modification): Success (Subsequently received)

8.2.6.17.1 Definition

8.2.6.17.2 Conformance requirement

If the IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- PHYSICAL CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

…

~~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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE 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: 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. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message elapses, 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 COMPLETE message on the DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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.
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, the IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different to that assigned in stage 1.
3	→		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.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1) (FDD)

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 for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Activation Time Info - Uplink DPCH info - Scrambling code number	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 Assigned in step 1

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 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
RRC transaction identifier	0
Activation Time - Uplink DPCH info - Scrambling code number	Not Present 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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

8.2.6.17.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

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 IE "RRC transaction identifier" is included in a received message, the UE shall perform the actions below. The UE shall:

If the received message is any of the messages:

- PHYSICAL CHANNEL RECONFIGURATION; or

…

the UE shall:

2> if the variable ORDERED_RECONFIGURATION is set to TRUE; or

2> if the variable CELL_UPDATE_STARTED is set to TRUE; or

2> if the table "Accepted transactions" in the variable TRANSACTIONS contains an entry with an IE "Message Type" set to ACTIVE SET UPDATE; or

2> if the received message contains a protocol error according to TS 25.331 clause 9 causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE:

3> if the IE "RRC transaction identifier" of the received message is identical to the "RRC transaction identifier" stored for the same "Message Type" as the received message in the table "Accepted transactions" in the variable TRANSACTIONS:

4> ignore the transaction; and

4> continue with any ongoing processes and procedures as the message was not received;

4> and end the procedure.

3> else:

~~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 a PHYSICAL CHANNEL RECONFIGURATION COMPLETE 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_DCH (state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in 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. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the activation time specified in the previous PHYSICAL CHANNEL RECONFIGURATION message, 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 COMPLETE message on the DCCH using AM RLC. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

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
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE enters CELL_FACH state.
4	←		PHYSICAL CHANNEL RECONFIGURATION	The "Secondary scrambling code is set to "1" for FDD mode and A code combination is assigned by SS for TDD
5	←		PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 4. For FDD the IE "Secondary scrambling code" is set to "2". For TDD, the code combination assigned is different from that assigned in stage 4.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 5 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 4.
7	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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) (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" as found in Annex A for FDD and Annex A for TDD with the following exceptions:

Information Element	Value/remark
RRC transaction identifier	0
Activation Time Info - Uplink DPCH info - Scrambling code number	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 1

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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256 Assigned in step 1

PHYSICAL CHANNEL RECONFIGURATION (Step 5) (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
RRC transaction identifier	0
Activation Time - Uplink DPCH info - Scrambling code number	Not Present 2

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
RRC transaction identifier	0
Activation Time - Uplink DPCH timeslots and codes - First timeslot code list	Not Present A different code combination to that used in step 1.

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

8.2.6.21 Physical Channel Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.6.21.1 Definition

8.2.6.21.2 Conformance requirement

1. In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

   - transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC;

2. If the new state is CELL_PCH or URA_PCH, the response message shall be transmitted using the old configuration before the state transition, but the new C-RNTI shall be used if the IE "New C-RNTI" was included in the received reconfiguration message, and the UE shall:

   - when RLC has confirmed the successful transmission of the response message:

     - for each radio bearer in the variable PDCP_SN_INFO:

       - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":

         - configure the RLC entity for that radio bearer to "continue";

- enter the new state (CELL_PCH or URA_PCH, respectively);

Reference

3GPP TS 25.331 clause 8.2.2.4

8.2.6.21.3 Test purpose

1. To verify that the UE, when receiving a PHYSICAL CHANNEL RECONFIGURATION message, responds by transmitting a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To verify that the response message is transmitted using the old configuration before the state transition, and that the UE enters the URA_PCH state.

8.2.6.21.4 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. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS using AM RLC and enters into URA_PCH state. SS calls for generic procedure C.5 to check that UE is in 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		←	PHYSICAL CHANNEL RECONFIGURATION	
2		→	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~~		~~→~~	~~CELL UPDATE~~	~~The UE is in CELL_FACH state.~~
4		←→	CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL 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
New C-RNTI	Not Present
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Downlink information for each radio links	Not Present
- Choice mode	
- Primary CPICH info	
- - Primary scrambling code	100

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

8.2.6.21.5 Test requirement

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

2. In step 5 the UE shall transmit a CELL UPDATE message.

8.2.6.22 Physical Channel Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.6.22.1 Definition

8.2.6.22.2 Conformance requirement

1. In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

   - transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC;

2. If the new state is CELL_PCH or URA_PCH, the response message shall be transmitted using the old configuration before the state transition, but the new C-RNTI shall be used if the IE "New C-RNTI" was included in the received reconfiguration message, and the UE shall:

   - when RLC has confirmed the successful transmission of the response message:

     - for each radio bearer in the variable PDCP_SN_INFO:

       - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":

         - configure the RLC entity for that radio bearer to "continue";

     - enter the new state (CELL_PCH or URA_PCH, respectively);

Reference

3GPP TS 25.331 clause 8.2.2.4

8.2.6.22.3 Test purpose

1. To verify that the UE, when receiving a PHYSICAL CHANNEL RECONFIGURATION message, responds by transmitting a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To verify that the response message is transmitted using the old configuration before the state transition, and that the UE enters the CELL_PCH state.

8.2.6.22.4 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. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS using AM RLC and enters into CELL_PCH state. SS calls for generic procedure C.4 to check that UE is in 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		←	PHYSICAL CHANNEL RECONFIGURATION	
2		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Physical C ú úel 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.~~
4		←→	CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL 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
New C-RNTI	Not Present
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Downlink information for each radio link~~s~~	Not Present
~~- Choice mode~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	~~100~~

~~PAGING TYPE 1 (Step 4)~~

~~Use the same message sub-type titled "TM (Packet in PS)" in default message content of TS34.108 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

8.2.6.22.5 Test requirement

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

2. In step 5 the UE shall transmit a CELL UPDATE message.

8.2.6.23 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing maintain): Success

8.2.6.23.1 Definition

8.2.6.23.2 Conformance requirement

If the UE receives:

- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.23.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, on a dedicated physical channel in a different frequency band.

8.2.6.23.4 Method of test

Initial Condition

System Simulator: 2 cells–Cells 1 is active and cell 6 is inactive.

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 to the CN domain(s) supported by the UE.

Test Procedure

Table 8.2.6.23

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-55	Off	-55

Table 8.2.6.23 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.23. The SS switches its downlink transmission power settings to columns "T1" and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new frequency information and IE "Timing indicator" set to maintain. The UE shall reconfigure the physical channel parameters according to PHYSICAL CHANNEL RECONFIGURATION message and establish a radio link with the SS using a dedicated physical channel in cell 6. The UE then transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message in ce` l 6 on the uplink DCCH AM RLC after its transition. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.23.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.23.
3	←		PHYSICAL CHANNEL RECONFIGURATION	Including new frequency information. IE "Timing indicator" is set to maintain.
4				The UE remains in CELL_DCH state after connecting to the SS on a dedicated physical channel in cell 6.
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message in cell 6.
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Uplink DPCH info	
- Scrambling code number	1
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 common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	Maintain
Downlink information for each radio links	
- Primary CPICH info	
- Primary Scrambling Code	350

8.2.6.23.5 Test requirement

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC in cell 6.

8.2.6.24 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (modify uplink physical channel rate): Success

8.2.6.24.1 Definition

8.2.6.24.2 Conformance requirement

If the UE receives:

- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2 and 8.5 and 8.6

8.2.6.24.3 Test purpose

To confirm that the UE modifies uplink physical channel rate according to a PHYSICAL CHANNEL RECONFIGURATION message and transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

8.2.6.24.4 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 of cell 1. The radio bearer is placed into UE test loop mode 1 described in 34.109 clause 5.3 and the UL RLC_SDU size for the loopback scheme is set to the maximum size possible when the maximum uplink TFS, as indicated in RADIO BEARER SETUP message during radio bearer establishment procedure, is used. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which assign a new UL puncture limit and minimum spreading factor to the UE to modify uplink physical channel rate. The UE shall reconfigure the physical channel according to this message and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH AM RLC. UL MAC restriction is imposed on the SS so that SS can only received using the maximum TFS and minimum TFS. Both TFSs belong to the restricted TFS(i.e. the TFS after reconfiguration) by the specified spreading factor. In this procedure SS transmits a RLC_SDU whose size is the same as the UL RLC_SDU size for the loopback scheme . The UE shall selects the maximum uplink TFS in the restricted TFS(i.e. the TFS after reconfiguration) on the radio access bearer. The SS should receive the expected data as a RLC_SDU that is sent back by UE. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state of cell 1.
2	←		PHYSICAL CHANNEL RECONFIGURATION	This message is including new IE "Uplink DPCH info" and don't include IE "Downlink information for each radio link".
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		DOWNLINK RLC SDU	
5	→		UPLINK RLC SDU	
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

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 "Packet to CELL_DCH from CELL_DCH in PS" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
CHOICE channel requirement - Uplink DPCH power control info	Uplink DPCH info Same contents as a RADIO BEARER SETUP message used in initial procedure
- CHOICE mode - Scrambling code type - Scrambling code number - Number of DPDCH - Spreading factor - TFCI existence - Number of FBI bit - Puncturing Limit Downlink information per radio link list	FDD Long 0 (0 to 16777215) Not Present Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure. Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure. Not Present Reference to TS34.108 clause 6.10 Parameter Set Set different parameter which is included in a RADIO BEARER SETUP message used in initial procedure. Not present

8.2.6.24.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 4 the UE shall transmit a RLC SDU that is same as the transmitted data from SS in step 4 on the radio access bearer.

8.2.6.25 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH (Frequency band modification): Success

8.2.6.25.1 Definition

8.2.6.25.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> if the received reconfiguration message included the IE "Primary CPICH info" (, and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

1> select PRACH according to TS25.331 subclause 8.5.17;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

2> perform a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

2> when the cell update procedure completed successfully:

3> if the UE is in CELL_PCH or URA_PCH state:

4> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Uplink data transmission";

4> proceed as below.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.25.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_FACH according to the PHYSICAL CHANNEL RECONFIGURATION message.
2. To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency..

8.2.6.25.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Test Procedure

Table 8.2.6.25

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.25 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 idle mode~~CELL_DCH state~~ of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.25. The SS modifies the contents of System information block 11 in cell 1, so that include IE ”Inter frequency measurement system information“ about cell 6. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and ~~transmits MEASUREMENT CONTROL message in order for the UE to know information of cell 6. The SS~~ transmits a PHYSICAL CHANNEL RECONFIGURATION message with no ~~including~~ IE "Frequency info" and IE "Primary CPICH info".~~new physical channel information.~~ The UE selects cell 6 and ~~shall then reconfigure the specified common physical channel according to this message and the system information in cell 6. Following this, it shall transmit~~ and initiates CELL UPDATE procedure~~message~~ with IE "Cell update cause" set to "cell reselection". Upon completion of the cell update procedure, UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the DCCH in cell 6. The SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default settings~~The initial state of UE is in CELL_DCH state of cell 1~~ and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.25.
1a	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
1b	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
1c	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.25.
3	←		~~MEASUREMENT CONTROL~~Void	~~The SS specifies inter-frequency measurement for cell 6.~~
4	←		PHYSICAL CHANNEL RECONFIGURATION	No including IE "Frequency info" and IE "Primary CPICH info"~~Including new frequency information~~
5	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
6	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
7	→		UTRAN MOBILITY INFORMATION CONFIRM	
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message on a common physical channel in cell 6.~~The UE selects PRACH and S-CCPCH indicated in SIB5 or SIB6 after entering CELL FACH state.~~
9	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

MEASUREMENT CONTROL (Step 3)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 6
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	350
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 s
- Reporting cell status	
- CHOICH reported cell	Report cells within active and/or monitored set on used

- Maximum number of reported cells - Parameters required for each non-used frequency - Threshold non-used frequency - W non-used frequency	frequency or within active and/or monitored set on non-used frequency 2 -85dbm 0.0

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd) Downlink information for each radio link	Not presnt Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6 Not present

CELL UPDATE (Step 5)

The contents of CELL UPDATE message are~~is~~ identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 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 are~~is~~ identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 7)

The contents of UTRAN MOBILITY UPDATE CONFIRM message are~~is~~ identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.6.25.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

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

After step 7 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 8 the UE shall be in CELL_FACH state of cell 6.

8.2.6.26 Physical Channel Reconfiguration from CELL_DCH to CELL_PCH (Frequency band modification): Success

8.2.6.26.1 Definition

8.2.6.26.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS5.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure completed successfully:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.26.3 Test purpose

1. To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_DCH to CELL_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.

3. To confirm that the UE releases a dedicated physical channel and selects a common physical channel in a different frequency.

8.2.6.26.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

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

Test Procedure

Table 8.2.6.26

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.26 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 ~~CELL_DCH state~~idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.26. The SS modifies the contents of System information block 11 in cell 1, so that include IE "Inter frequency measurement system information" about cell 6. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and ~~transmits MEASUREMENT CONTROL message in order for the UE to know information of cell 6. The SS~~ transmits a PHYSICAL CHANNEL RECONFIGURATION message, which invokes the UE to transit from CELL_DCH to CELL_PCH. ~~and includes new frequency information.~~ The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters CELL_PCH state. The UE selects ~~of~~ cell 6. and ~~Then, UE shall transmit~~ initites CELL UPDATE procedure ~~message on uplink CCCH~~ with IE "Cell update cause" set to "cell reselection". Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default~~The initial state of UE is in CELL_DCH state of cell 1~~ and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.26.
1a	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
1b	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108..	
1c	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.26.
3	~~←~~		~~MEASUREMENT CONTROL~~Void	~~The SS specifies inter-frequency measurement for cell 6.~~
4	←		PHYSICAL CHANNELRECONFIGURATION	No including IE" frequency info " and IE "Primary CPICH info"~~Including new frequency information.~~
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE transmit this message in cell 1.
6	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
7	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH".
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

~~MEASUREMENT CONTROL (Step 3)~~

~~Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:~~

~~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 Mode~~	~~Event Trigger~~
~~Additional measurements list~~	~~Not Present~~
~~CHOICE measurement type~~	~~Inter-frequency measurement~~
~~- Inter-frequency measurement object list~~	
~~- Inter-frequency cell info list~~	
~~- CHOICE inter-frequency cell removal~~	~~No inter-frequency cells removed~~
~~- New inter-frequency cells~~	
~~- Inter-frequency cell id~~	~~6~~
~~- Frequency info~~	
~~- UARFCN uplink (Nu)~~	~~UARFCN of the uplink frequency for cell 6~~
~~- UARFCN downlink (Nd)~~	~~UARFCN of the downlink frequency for cell 6~~
~~- Cell info~~	
~~- Cell individual offset~~	~~0 dB~~
~~- Reference time difference to cell~~	~~0 chips~~
~~- Read SFN Indicator~~	
~~- CHOICE Mode~~	~~FDD~~
~~- Primary CPICH Info~~	
~~- Primary Scrambling Code~~	~~350~~
~~- Primary CPICH TX power~~	~~Not Present~~
~~- Primary CPICH TX power~~	
~~- TX Diversity Indicator~~	~~Not Present~~
~~- Cell for measurement~~	~~Not Present~~
~~- Inter-frequency measurement quantity~~	
~~- CHOICE reporting criteria~~	~~Inter-frequency reporting criteria~~

- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- 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
- Maximum number of reported cells	2
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 s
- Reporting cell status	
- CHOICH reported cell	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
- Parameters required for each non-used frequency	
- Threshold non used frequency	-85dbm
- W non-used frequency	0.0

PHYSICAL CHANNEL RECONFIGURATION (Step 4)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	
- UARFCN uplink (Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink (Nd)	Same downlink UARFCN as used for cell 6

CELL UPDATE (Step 6)

The contents of CELL UPDATE message are~~is~~ identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 7)

The contents of CELL UPDATE CONFIRM message are~~is~~ identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
RRC State Indic	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.6.26.5 Test requirement

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 5 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection" in cell 6.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.6.27 Physical channel reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.6.27.1 Definition

8.2.6.27.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS5.331 subclause 8.6.3.2.

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

3GPP TS 25.331 clause 8.2.2,8.3, 8.5 and 8.6.

8.2.6.27.3 Test purpose

1. To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.
3. To confirm that the UE replies with CELL UPDATE message in cell 6 when the SS transmits PAGING TYPE 1 message to the UE.

8.2.6.27.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters CELL_PCH state. The SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		PHYSICAL CHANNEL RECONFIGURATION	
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4				The SS waits for 5 s.
5	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.6.27.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC.

After step 4 the UE shall be in CELL_PCH state in cell 6.

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

3GPP TSG–T1 Meeting #16
Yokohama, Japan, July 29 – Aug 2, 2002

Tdoc T1-020534

3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th- 31st July 2002

Tdoc T1S-020527

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 278** ⌘ ev - ⌘ Current version: 5.0.1 ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to non-package 1&2 TCs in clause 8.3 of TS 34.123-1
Source:	⌘	Panasonic, Ericsson
Work item code:	⌘	TEI
Date:	⌘	31 July 2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘

1. Update Conformance Requirement according to core specification 25.331.
2. Editorial changes.
3. Add generic procedure at the end of some test cases to verify the final state of the UE.
4. Add specific procedures, either before or after the actual testing, to verify that the UE continues with any ongoing processes and procedures as if the erroneous message was not received .
5. In T1/SIG #23 meeting, it was agreed that SS should wait for 5s after asking UE to move to idle mode state, before checking that the UE is idle mode state.
6. In the T1/SIG #23 meeting, the CPICH Ec value of cell 1 in clause 8.3.1.23, 8.3.1.24 and 8.3.2.13 has been revised, however it was later felt that the original values are more appropriate for the test, therefore the values are reverted back to the original. Moreover, the values in the table are further revised so that the value is in granularity of 5dB.
7. When Confirmation error of URA-ID list occurs, the IE “URA update cause” should be set to “change of URA”.
8. Since there is no MEASUREMENT REPORT message sent to SS indicating to SS the cell synchronisation information, SS could not set the DPCH frame offset in the ACTIVE SET UPDATE message.
9. In some test cases, using ASN.1 error to simulate invalid message will not cause the UE to transmit failure message (rather RRC STATUS will be sent), it is proposed here to use critical message extension to simulate invalid messages in these test cases.

Summary of change: ⌘ In clause 8.3.1.12

- Conformance Requirement and Test Purpose are updated.

- SS called generic procedure C.1 to check that UE is in idle mode at the end of test.

In clause 8.3.1.13
- Conformance Requirement and Test Purpose are updated.
- References are added.
- Critical extension is added to the message content of CELL UPDATE CONFIRM (step 3). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.3.1.14
- Conformance Requirement and Test Purpose are updated.
- References are added.

In clause 8.3.1.15
- In Test Procedure, replaced [TBD] by 5.
- In Expected Sequence, added “After UE sent this message, UE waits for 5s.”

In clause 8.3.1.17
- This test case should be removed, because there is no practical reason for UTRAN to send RRC CONNECTION RELEASE message to UE during a cell update.

In clause 8.3.1.18
- Conformance Requirement and Test Purpose are updated.
- In step 0, a comment is added to clarify that in the initial setup procedure, the RAB that is to be setup for the test should be associated with T315.
- Edited Test Procedure and Test Requirement to avoid ambiguity.
- Annex A is moved to 34.108 clause 9.

In clause 8.3.1.20
- Conformance Requirement and Test Purpose are updated.
- References are added.

In clause 8.3.1.23
- Conformance Requirement and Test Purpose are updated.
- In the table, the CPICH Ec values of the cells are revised.

In clause 8.3.1.24
- Conformance Requirement and Test Purpose are updated.
- In the table, the CPICH Ec values of the cells are revised.

In clause 8.3.2.2
- Conformance Requirement and Test Purpose are updated.
- In Test Requirement, after step 5 the UE shall return to URA_PCH and not CELL_FACH.
- SS called generic procedure C.5 to check that UE is in URA_PCH at the end of test.
- Critical extension is added to the message content of URA UPDATE CONFIRM (step 3). This will create “Unexpected Critical Extension” error, not “ASN.1 violation”.

In clause 8.3.2.5

- Conformance Requirement and Test Purpose are updated.
- References are added.
- The second and subsequent URA UPDATE messages should have the IE "URA update cause" set to "change of URA", and not "periodic URA update".

In clause 8.3.2.6

- Conformance Requirement and Test Purpose are updated.
- References are added.
- The second and subsequent URA UPDATE messages should have the IE "URA update cause" set to "change of URA", and not "periodic URA update".
- SS called generic procedure C.1 to check that UE is in idle mode at the end of test.

In clause 8.3.2.9

- This test case should be removed, because there is no practical reason for UTRAN to send RRC CONNECTION RELEASE message to UE during a URA update.

In clause 8.3.2.10

- Conformance Requirement and Test Purpose are updated.
- References are added.

In clause 8.3.2.12

- Test Purpose are updated.

In clause 8.3.2.13

- Conformance Requirement and Test Purpose are updated.
- Typo error in Test Procedure.
- In the table, the CPICH Ec values of the cells are revised.

In clause 8.3.3.2

- Conformance Requirement and Test Purpose are updated.
- References are added.
- UE shall send CELL UPDATE before step 2. This is to verify that the UE "continues with any ongoing processes and procedures as if the invalid message has not been received".
- Critical extension is added to the message content of UTRAN MOBILITY INFORMATION (step 2). This will create "Unexpected Critical Extension" error, not "ASN.1 violation".

In clause 8.3.4.4

- Conformance Requirement and Test Purpose are updated.
- References are added.
- After step 4 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC. This is to verify that the UE "continues with any ongoing processes and procedures as if the invalid message has not been received" .
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.3.4.5

- Conformance Requirement and Test Purpose are updated.

- References are added.
- Before step 1, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the invalid message has not been received" .
- SS called generic procedure C.2 to check that UE is in CELL_FACH at the end of test.
- The value of DPCH frame offset in ACTIVE SET UPDATE message is arbitrarily set to 0.

In clause 8.3.4.7

- Conformance Requirement and Test Purpose are updated.
- After step 4, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the invalid message has not been received" .
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Critical extension is added to the message content of ACTIVE SET UPDATE (step 3). This will create "Unexpected Critical Extension" error, not "ASN.1 violation".

Modifications compared to T1S-02362 (highlighted in yellow):

- The removal of TC 8.3.1.17 and 8.3.2.9 was undone and the conformance requirements were updated for these testcases.
- Corrected "UE" to "SS" in 8.3.1.15 step 6.

Consequences if not approved:	⌘	If changes are not approved, UE might not be properly tested.

Clauses affected:	⌘	8.3.1.12, 8.3.1.13, 8.3.1.14, 8.3.1.15, 8.3.1.17, 8.3.1.18, 8.3.1.20, 8.3.1.23, 8.3.1.24, 8.3.2.2, 8.3.2.5, 8.3.2.6, 8.3.2.9, 8.3.2.10, 8.3.2.12, 8.3.2.13, 8.3.3.2, 8.3.4.4, 8.3.4.5, 8.3.4.7		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.3.1.12 Cell Update: Failure (After Maximum Re-transmissions)

8.3.1.12.1 Definition

8.3.1.12.2 Conformance requirement

If any or several of the following conditions are true:

- expiry of timer T302;

the UE shall:

1> stop T302 if it is running;

1> check whether it is still in "in service area";

1> in case of a cell update procedure:

2> clear any entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS.

If the UE detects "in service area" if it has not entered idle mode, and:

1> if V302 is equal to or smaller than N302, the UE shall:

…

1> if V302 is greater than N302, the UE shall:

2> in case of a cell update procedure:

3> clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS.

2> release all its radio resources;

2> enter idle mode;

2> other actions the UE shall perform when entering idle mode from connected mode are specified in TS 25.331subclause 8.5.2;

2> and the procedure ends.

~~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

1. To confirm that the UE repeats the cell update procedure upon 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: PS-DCCH+DTCH_FACH (state 6-11)as specified in clause 7.4 of TS 34.108.

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) times after the expiry of timer T302. After (N302) attempts of retransmission, the UE shall return to idle state. SS waits for 5s and then calls for generic procedure C.1 to check that UE is in idle mode state. ~~SS transmits a PAGING TYPE 1 message with UE's identity. UE shall respond with a RRC CONNECTION REQUEST message.~~

Expected sequence

Step	Direction		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.
2	→		CELL UPDATE	The value "periodical cell update" shall be set in IE "Cell update cause".
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 5.
5				The UE shall enter idle mode state.
~~6~~	~~←~~		~~PAGING TYPE 1~~	~~SS pages the UE at its assigned paging occasion using the allocated UE identity.~~
~~7~~	~~→~~		~~RRC CONNECTION REQUEST~~	~~The UE shall respond to this page as it has already entered the idle mode.~~
6	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode state, the test passes, otherwise it fails.

Specific Message Contents

CELL UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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 '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' 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 3 and if K is greater than N302, the UE shall stop transmitting CELL UPDATE message and then enters idle state.

~~After step 6 the UE shall transmit a RRC CONNECTION REQUEST message to respond to the PAGING TYPE 1 message.~~

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 receives an CELL UPDATE CONFIRM message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> If V302 is equal to or smaller than N302, the UE shall:

2> set the variable PROTOCOL_ERROR_INDICATOR to TRUE;

2> in case of a cell update procedure:

3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the CELL UPDATE message for transmission on the uplink CCCH.

…

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302, the UE shall:

…

2> release all its radio resources;

2> enter idle mode;

2> Other actions the UE shall perform when entering idle mode from connected mode are specified in TS 25.331 subclause 8.5.2;

2> the procedure ends.

~~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 a 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.~~

Reference

3GPP TS 25.331 clause 8.3.1.11

8.3.1.13.3 Test Purpose

1. To confirm that the UE retransmits a CELL UPDATE message when it receives an invalid CELL UPDATE CONFIRM message, before the number of retransmissions has reached the maximum allowed value.

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.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with an invalid CELL UPDATE CONFIRM messageon downlink DCCH using UM RLC. The UE shall detect the protocol error and re-transmit a CELL UPDATE message up to a maximum of N302 times. SS then transmit a valid CELL UPDATE CONFIRM message. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PAGING TYPE 1	The UE is in the CELL_PCH state. SS pages for the UE using the allocated connected mode identity (U-RNTI).
2	→		CELL UPDATE	Check that the value "paging response" is set in IE "Cell update cause".
3	←		CELL UPDATE CONFIRM	See specific message content.
4	→		CELL UPDATE	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~~Message extension not comprehended" is set in IE "Protocol error information".
5	←		CELL UPDATE CONFIRM	See message content.
6	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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 '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

Use the CELL UPDATE CONFIRM message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

CELL UPDATE (Step 4)

The same message found in ~~Annex A~~34.108 clause 9 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 Failure cause -Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response' Check to see if it is set to 'protocol error' Check to see if it is set to "~~ASN.1 violation and encoding error~~Message extension not comprehended"

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 - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity '0000 0000 0001' '0000 0000 0000 0000 0001'

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'1010 1010 1010 1010'

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".

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~~Message extension not comprehended" into IE "Protocol error information".

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

8.3.1.14 Cell Update: Incompatible simultaneous reconfiguration

8.3.1.14.1 Definition

8.3.1.14.2 Conformance Requirement

In case of a cell update procedure and if the received CELL UPDATE CONFIRM message

- includes "RB information elements"; and/or
- includes "Transport channel information elements"; and/or
- includes "Physical channel information elements"; and
- the variable ORDERED_RECONFIGURATION is set to TRUE because of an ongoing Reconfiguration procedure;

and/or

- if the variable INCOMPATIBLE_SECURITY_RECONFIGURATION becomes set to TRUE of the received CELL UPDATE CONFIRM message:

the UE shall:

1> if V302 is equal to or smaller than N302:

2> if, caused by the received CELL UPDATE CONFIRM message

…

3> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:

4> set the variable ORDERED_RECONFIGURATION to FALSE.

2> set the variable FAILURE_INDICATOR to TRUE;

2> set the variable FAILURE_CAUSE to "Incompatible simultaneous reconfiguration";

2> set the content of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the CELL UPDATE message for transmission on the uplink CCCH;

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

…

~~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 a CELL UPDATE message on uplink CCCH, restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the downlink message.~~

Reference

3GPP TS 25.331 clause 8.3.1.9a

8.3.1.14.3 Test Purpose

1. To confirm that the UE retransmits a 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, before the number of retransmissions has 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.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a 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" before the "activation time" indicated in the previous CELL UPDATE CONFIRM message expires. The UE shall re-transmit a 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 CONFIRM message to end the procedure.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PAGING TYPE 1	
2	→		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.
5	→		CELL UPDATE	
6	←		CELL UPDATE CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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~~34.108 clause 9 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 Failure cause	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response' Check to see if set to 'Incompatible simultaneous reconfiguration'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exception:

Information Element	Value/remark
Activation Time Info Maximum allowed UL TX power	Current CFN-[current CFN mod 8 + 8] 30dBm

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exception:

Information Element	Value/remark
Activation Time Info Maximum allowed UL TX power	Current CFN-[current CFN mod 8 + 8] 25dBm

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 - CHOICE Used paging identity - U-RNTI - SRNC Identity - S-RNTI	 UTRAN identity '0000 0000 0001' '0000 0000 0000 0000 0001'

8.3.1.14.5 Test Requirement

After step 1, UE shall transmit a CELL UPDATE message.

After step 4 the UE shall re-transmit a CELL UPDATE message with failure cause set to "Incompatible simultaneous reconfiguration".

8.3.1.15 Cell Update: Unrecoverable error in Acknowledged Mode RLC SRB

8.3.1.15.1 Definition

8.3.1.15.2 Conformance Requirement

A UE shall initiate the cell update procedure in the following cases:

…

1> RLC unrecoverable error:

…

2> if the UE detects RLC unrecoverable error in an AM RLC entity:

3> perform cell update using the cause "RLC unrecoverable error".

In case of cell update procedure the UE shall transmit a CELL UPDATE message.

The UE shall set the IEs in the CELL UPDATE message as follows:

…

1> if an unrecoverable error in any of the AM RLC entities for the signalling radio bearers RB2, RB3 or RB4 is detected:

2> set the IE "AM_RLC error indication (RB2, RB3 or RB4)" to TRUE.

1> otherwise:

2> set the IE "AM_RLC error indication (RB2, RB3 or RB4)" to FALSE.

…

When the UTRAN receives a CELL UPDATE/URA UPDATE message, the UTRAN should:

…

1> initiate an RRC connection release procedure by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:

2> if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:

3> initiate an RRC connection release procedure by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

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 UE enters idle mode state after receiving RRC CONNECTION RELEASE message on the downlink CCCH.

8.3.1.15.4 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 supported by the UE

Test Procedure

The UE is initially in CELL_DCH state. SS sends a 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 re-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 a CELL UPDATE message on the uplink CCCH. The CELL UPDATE message shall specify the value "TRUE" in IE "AM_RLC error indicator (RB2, RB3 or RB4)" and "RLC unrecoverable error" as the cell update cause. SS sends RRC CONNECTION RELEASE message on the downlink CCCH to UE. SS waits for ~~[TBD]~~ 5 s and then calls for generic procedure C.1 to check that UE is in idle mode state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is initially in CELL_DCH state.
2	←		UE CAPABILITY ENQUIRY	
3	→		UE CAPABILITY INFORMATION	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 a RESET PDU. SS does not respond to any RESET PDU frames originated from the UE, and it waits for a period equivalent to (MAX_RST+1) times expiry of Timer_RST.
5	→		CELL UPDATE	UE shall send this message on CCCH. IE "AM_RLC Error Indication (RB2, RB3 or RB4)" shall be set to 'TRUE'
6	←		RRC CONNECTION RELEASE	Sends this message on the downlink CCCH and includes UE's UTRAN identity. After SS sent this message, SS waits for 5s.
7	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode state, the test passes, otherwise it fails.

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2)

Use the same message found in ~~Annex A~~34.108 clause 9 .

UE CAPABILITY INFORMATION (Step 3)

Only the message type IE is checked for this message.

CELL UPDATE (Step 5)

The same message found in ~~Annex A~~34.108 clause 9 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 AM_RLC error indicator (RB2, RB3 or RB4) Cell update cause	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'TRUE' RLC unrecoverable error

RRC CONNECTION RELEASE (Step 6)

Use the same message found in ~~Annex A~~34.108 clause 9 .

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, RB3 or RB4 data as well as cell update cause set to "RLC unrecoverable error".

8.3.1.16 Void

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.~~

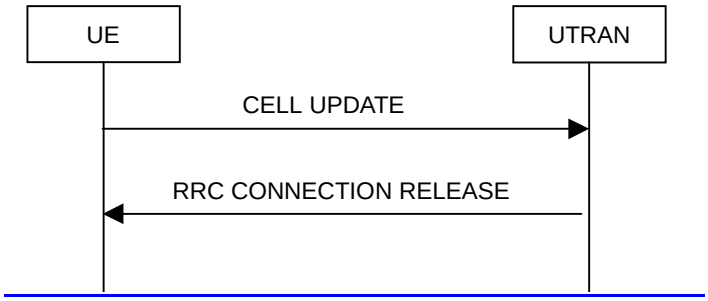

Figure 8.3.1-7: Cell update procedure, failure case

When the UTRAN receives a CELL UPDATE/URA UPDATE message, the UTRAN should:

1> … or

1> initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

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; and

1> if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI; or

1> if the message is received on DCCH:

the UE shall:

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the CCCH:

3> …

3> 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 CCCH.

8.3.1.17.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH (state 6-11)

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 a 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. SS verifies that UE is in idle mode state by paging the UE with CN identity, in which case the UE shall attempt to establish a RRC connection.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		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	←		RRC CONNECTION RELEASE	SS transmits a RRC CONNECTION RELEASE message to the UE.
3			Void	
4			Void	
5	←		PAGING TYPE 1	Page using TMSI for CS domain or P-TMSI for PS domain depending on CN domain supported by the UE.
6	→		RRC CONNECTION REQUEST	

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)

Use 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	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 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 5 the UE transmit a RRC CONNECTION REQUEST message.

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

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

…

1> Paging response:

…

1> Radio link failure:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met; and

2> if the UE is in CELL_DCH state; and

2> if the criteria for radio link failure is met as specified in TS 25.331 subclause 8.5.6:

3> perform cell update using the cause "radio link failure".

…

When initiating the cell update procedure, the UE shall:

1> stop timer T305;

1> if the UE is in CELL_DCH state:

2> in the variable RB_TIMER_INDICATOR, set the IE "T314 expired" and the IE "T315 expired" to FALSE;

2> if the stored values of the timer T314 and timer T315 are both equal to zero; or

2> if the stored value of the timer T314 is equal to zero and there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315":

…

2> if the stored value of the timer T314 is equal to zero:

…

2> if the stored value of the timer T315 is equal to zero:

3> release all radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT315";

3> in the variable RB_TIMER_INDICATOR set the IE "T315 expired" to TRUE.

2> if the stored value of the timer T314 is greater than zero:

3> if there are radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314":

4> start timer T314.

3> if there are no radio bearers associated with any radio access bearers for which in the variable ESTABLISHED_RABS the value of the IE "Re-establishment timer" is set to "useT314" or "useT315":

4> start timer T314.

2> if the stored value of the timer T315 is greater than zero:

…

2> for the released radio bearer(s):

3> delete the information about the radio bearer from the variable ESTABLISHED_RABS;

3> when all radio bearers belonging to the same radio access bearer have been released:

4> indicate local end release of the radio access bearer to upper layers using the CN domain identity together with the RAB identity stored in the variable ESTABLISHED_RABS;

4> delete all information about the radio access bearer from the variable ESTABLISHED_RABS.

2> select a suitable UTRA cell according to TS 25.304;

2> set the variable ORDERED_RECONFIGURATION to FALSE.

1> set the variables PROTOCOL_ERROR_INDICATOR, FAILURE_INDICATOR, UNSUPPORTED_CONFIGURATION and INVALID_CONFIGURATION to FALSE;

1> set the variable CELL_UPDATE_STARTED to TRUE;

1> move to CELL_FACH state, if not already in that state;

1> if the UE performs cell re-selection:

2> clear the variable C_RNTI; and

2> stop using that C_RNTI just cleared from the variable C_RNTI in MAC.

1> set CFN in relation to SFN of current cell according to TS 25.331 subclause 8.5.15;

1> in case of a cell update procedure:

2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the CELL UPDATE message for transmission on the uplink CCCH.

1> set counter V302 to 1;

1> start timer T302 when the MAC layer indicates success or failure in transmitting the message.

…

If the received CELL UPDATE CONFIRM message would cause the UE to transit to CELL_DCH state; and

1> in case of a received CELL UPDATE CONFIRM message:

2> if the UE failed to establish the physical channel(s) indicated in the received CELL UPDATE CONFIRM message

…

the UE shall:

1> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:

2> set the variable ORDERED_RECONFIGURATION to FALSE.

1> if V302 is equal to or smaller than N302:

2> select a suitable UTRA cell according to TS 25.304;

2> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "Radio link failure";

2> submit the CELL UPDATE message for transmission on the uplink CCCH;

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

…

~~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

1. 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.

2. 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+DTCH_DCH (state 6-9) or PS_DCCH+DTCH_DCH (state 6-10) in cell 1, depending on the CN domain(s) supported by the UE.or

Test Procedure

Table 8.3.1.18

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec (FDD)	dBm/3.84MHz	-60	OFF	-75	-60
P-CCPCH RSCP (TDD)	dBm	-60	OFF	-75	-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 a successful outgoing call attempt. After the call has been established, SS transmits UTRAN MOBILITY INFORMATION message to UE to change to value of T315 timer. UE shall respond with a UTRAN MOBILITY ~~B~~INFORMATION CONFIRM message. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.1.18. 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 transmit CELL UPDATE on the uplink CCCH to SS. The SS transmits CELL UPDATE CONFIRM message which includes dedicated physical channel parameters. SS shall not configure according to this message ~~and~~ . Instead, SS configures 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 CELL UPDATE CONFIRM message to end the procedure. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0				In the initial set up procedure, the SS shall request UE to associate timer T315 with the new RAB.
1	←		UTRAN MOBILITY INFORMATION	T315=0
2	→		UTRAN MOBILITY INFORMATION CONFIRM	
3			Void	
4				SS configures cell 1 and 2 according to column "T1" in table 8.3.1.18. SS starts to listen to the uplink CCCH of cell 2.
5			Void	
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	→		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	←		CELL UPDATE CONFIRM	Including dedicated physical channel parameters.
9				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.
10	→		CELL UPDATE	UE shall select cell 1 and enter CELL_FACH state to transmit this message
11	←		CELL UPDATE CONFIRM	See message content.
12	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

UTRAN MOBILITY INFORMATION (Step 1)

The contents of UTRAN MOBILITY INFORMATION message in this test case is identical to those in ~~Annex A~~ 34.108 clause 9 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	
- T315	0

CELL UPDATE (Step 7)

The same message found in ~~Annex A~~34.108 clause 9 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 in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'
RB timer indicator	
- T314 expired	FALSE
- T315 expired	TRUE

CELL UPDATE CONFIRM (Step 8)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
RRC State indicator	CELL_DCH
CHOICE channel requirement	Same as the set defined in the RADIO BEARER SETUP message in initial condition.

CELL UPDATE (Step 10)

The same message found in ~~Annex A~~34.108 clause 9 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 in cell 1.
- S-RNTI	Check to see if set to value assigned in cell 1.
Cell Update Cause	Check to see if set to 'radio link failure'

CELL UPDATE CONFIRM (Step ~~12~~ 11)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
New C-RNTI	'1010 1010 1010 1010'

8.3.1.18.5 Test requirement

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 a CELL UPDATE message.

After step 9, the UE shall transmit a CELL UPDATE message with IE "Cell update cause" set to "Radio link failure".

After step ~~12~~11, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

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 variable INVALID_CONFIGURATION is set to TRUE, the UE shall:

1> if V302 is equal to or smaller than N302:

2> if, caused by the received CELL UPDATE CONFIRM message

3> if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:

4> set the variable ORDERED_RECONFIGURATION to FALSE.

2> in case of a cell update procedure:

3> set the variable FAILURE_INDICATOR to TRUE;

3> set the variable FAILURE_CAUSE to "Invalid configuration";

3> set the contents of the CELL UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the CELL UPDATE message for transmission on the uplink CCCH.

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

…

~~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-transmit a CELL UPDATE message on uplink CCCH, restart T302 timer and increment V302. It shall use the same "Cell Update Cause" as before receiving the erroneous downlink message.~~

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.20.3 Test Purpose

1. To confirm that the UE retransmits a 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.

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.

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending a PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall transmit a CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message which is set to give an invalid configuration. The UE shall re-transmit CELL UPDATE message. SS responds with a valid CELL UPDATE CONFIRM message to end the procedure. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PAGING TYPE 1	The UE is in the CELL_PCH state. SS pages for the UE using the allocated connected mode identity (U-RNTI).
2	→		CELL UPDATE	If CELL UPDATE message is received, check that the value "paging response" is set in IE "Cell update cause".
3	←		CELL UPDATE CONFIRM	SS transmits an invalid message.
4	→		CELL UPDATE	IE "failure cause" is set to "invalid configuration"
5	←		CELL UPDATE CONFIRM	
6	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Content

CELL UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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 '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Paging Response'

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9, with the following exception:

Information Element	Value/remark
RRC State Indicator Uplink DPCH info	CELL_DCH Not Present

CELL UPDATE (Step 4)

The same message found in ~~Annex A~~34.108 clause 9 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)

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'

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
New C-RNTI	'1010 1010 1010 1010'

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

8.3.1.23 Cell Update: HCS cell reselection in CELL_FACH

8.3.1.23.1 Definition

8.3.1.23.2 Conformance requirement

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 >= 0. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion H >= 0. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

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 and the quality measure for cell selection and re-selection is set to CPICH RSCP, the UE shall perform cell re-selection to that FDD cell.

In all cases, the UE shall reselect the new cell, only if the following conditions are met:

- the new cell is better ranked than the serving cell during a time interval Treselection.
- more than 1 second has elapsed since the UE camped on the current serving cell.

…

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

…

1> Paging response:

…

1> Radio link failure:

…

1> Re-entering service area:

…

1> RLC unrecoverable error:

…

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

~~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 with HCS parameters applied.~~

Reference

3GPP TS 25.331 clause 8.3.1.

3GPP TS 25.304 clause 5.2.6.1.4.

3GPP TS 25.304 clause 5.4.3.

8.3.1.23.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.23.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To inTable 8.3.1.21-1. Cell 2 and 3 are switched off.

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

Specific Message Content

For system information blocks 3, 4, 11 & 12 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

Contents of System Information Block type 3 (FDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- $S_{intrasearch}$	16 dB
- $S_{intersearch}$	0 dB
- $S_{searchHCS}$	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- $S_{search,RAT}$	-32 dB
- $S_{HCS,RAT}$	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Q_{hyst1s}	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qrxlevmin	-103 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- $Qhyst2_S$	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- $S_{intrasearch}$	10 dB
- $S_{intersearch}$	10 dB
- $S_{searchHCS}$	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- $S_{search,RAT}$	-32 dB
- $S_{HCS,RAT}$	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Q_{hyst1_S}	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.23-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm	-~~61~~60	-~~76~~60	-~~61~~60	-80	-80	-~~67~~70	-80	-70	-~~73~~75
H* (After PenaltyTime)		~~15~~16	~~0~~16	~~15~~16	-4	-4	~~9~~6	-4	6	~~3~~1
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (After PenaltyTime)		15	15	15	-4	-4	9	-4	3	3
R* (After PenaltyTime)		-41	-41	-41	-60	-60	-47	-60	-53	-53

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_FACH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "TO" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.21-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 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. Then the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. UE shall stay in CELL_FACH state. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.21-1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection to cell 2 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. 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_FACH", 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. UE shall stay in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state in cell 1
2	←		BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.1-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall find still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_FACH State
3				SS changes the power levels as per column 'T1' in the table 8.3.1.21-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4	→		CELL UPDATE	Value "cell reselection" shall be indicated in IE "Cell update cause" Received in Cell 3
5	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
6	→		UTRAN MOBILITY INFORMATION CONFIRM	
7				SS changes the power levels as per column 'T2' in the table 8.3.1.21-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 3 as best for service and remain in cell 3. After Penalty time of 40 Seconds, UE shall find Cell 2 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
8	→		CELL UPDATE	Received in Cell 2
9	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_FACH".
10	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

Contents of System Information Block type 3 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	-20dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in ~~Annex A~~34.108 clause 9 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	In step 4 and 8
Cell Update Cause	Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 9)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
RRC State Indicator New C-RNTI	CELL_FACH '1010 1010 1010 1010'

8.3.1.23.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

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

After step 7 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 9 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC.

8.3.1.24 Cell Update: HCS cell reselection in CELL_PCH

8.3.1.24.1 Definition

8.3.1.24.2 Conformance requirement

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 >= 0. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion H >= 0. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

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 and the quality measure for cell selection and re-selection is set to CPICH RSCP, the UE shall perform cell re-selection to that FDD cell.

In all cases, the UE shall reselect the new cell, only if the following conditions are met:

- the new cell is better ranked than the serving cell during a time interval Treselection.
- more than 1 second has elapsed since the UE camped on the current serving cell.

…

A UE shall initiate the cell update procedure in the following cases:

1> Uplink data transmission:

…

1> Paging response:

…

1> Radio link failure:

…

1> Re-entering service area:

…

1> RLC unrecoverable error:

…

1> Cell reselection:

2> if none of the criteria for performing cell update with the causes specified above in the current subclause is met:

3> if the UE is in CELL_FACH or CELL_PCH state and the UE performs cell re-selection; or

3> if the UE is in CELL_FACH state and the variable C_RNTI is empty:

4> perform cell update using the cause "cell reselection".

~~This procedure is used to update UTRAN with the current cell of the UE after it has performed a cell reselection in CELL_PCH state with HCS parameters applied.~~

Reference

3GPP TS 25.331 clause 8.3.1.

3GPP TS 25.304 clause 5.2.6.1.4.

3GPP TS 25.304 clause 5.4.3.

8.3.1.24.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters.
2. To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell.
3. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

8.3.1.24.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 is active with downlink transmission power shown in Column To in table 8.3.1.21-1. Cell 2 and 3 are switched off.

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.

Specific Message Content

For system information blocks 3, 4, 11 & 12 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

Contents of System Information Block type 3 (FDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- $Qhyst2_S$	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qrxlevmin	-103 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.1.24-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm	-~~61~~60	-~~76~~60	-~~61~~60	-80	-80	-70~~-67~~	-80	-70	-75~~-73~~
H* (After Penalty Time)		~~15~~16	~~0~~16	~~15~~16	-4	-4	6~~9~~	-4	6	1~~3~~
R* (After Penalty Time)		-41	-41	-41	-60	-60	-47	-60	-53	-53
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (After PenaltyTime)		15	15	15	-4	-4	9	-4	3	3
R* (After PenaltyTime)		-41	-41	-41	-60	-60	-47	-60	-53	-53

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the CELL_PCH state, camping onto cell 1. SS configures Cell 2 and 3 with power levels given in column "TO" and starts to broadcast BCCH on the primary CCPCH in cell 2 & 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.1.22-1. The UE shall find cell 3 to be more suitable for service and hence perform a cell reselection to cell 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and transmit a CELL UPDATE message to the SS on the uplink CCCH of cell 3 and set IE "Cell update cause" to "Cell Reselection". After SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "RRC State Indicator" set to "CELL_PCH", to the UE on the downlink DCCH. UE shall return to CELL_PCH state in Cell 3 and will not transmit anything on PRACH. SS then sets downlink transmission power settings according to columns "T2" in table 8.3.1.22-1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection to cell 2 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. After the completion of cell reselection, the UE shall move to CELL_FACH state and 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", to the UE on the downlink DCCH. UE shall return to CELL_PCH state in Cell 2 and will not transmit anything on PRACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state in cell 1
2	←		BCCH	SS applies the downlink transmission power settings, according to the values in columns "T0" of table 8.3.1.1-1. The SS starts to broadcast BCCH on the primary CCPCH in cell 2 and Cell 3. The UE shall find still find Cell 1 best for service even after penalty time of 40 seconds, and shall remain in Cell 1 in CELL_PCH State
3				SS changes the power levels as per column 'T1' in the table 8.3.1.21-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 1 as best for service and remain in cell 1. After Penalty time of 40 Seconds, UE shall find Cell 3 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 3.
4	→		CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 3
5	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH".
7				SS changes the power levels as per column 'T2' in the table 8.3.1.21-1. For the time equal to Penalty time 40 Seconds, after the change in power levels, the UE shall still find Cell 3 as best for service and remain in cell 3. After Penalty time of 40 Seconds, UE shall find Cell 2 better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
8	→		CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection". Received in Cell 2
9	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH".

Specific Message Contents

Contents of System Information Block type 3 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	-20dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

CELL UPDATE

The same message found in ~~Annex A~~34.108 clause 9 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 '0000 0000 0001' In step 4 and 7 Check to see if set to 'Cell Re-selection'

CELL UPDATE CONFIRM (Step 5 and 8)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
RRC State Indicator UTRAN DRX cycle length coefficient	CELL_PCH 3

8.3.1.24.5 Test requirement

After step 3 the UE shall reselect to cell 3 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 6 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".

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

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

…

1> Periodic URA update:

2> if the criteria for performing URA update with the causes as specified above in the current subclause are not met; and

2> if the timer T305 expires while the UE is in the service area; and

2> if periodic updating has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity":

3> perform URA update using the cause "periodic URA update".

If the URA UPDATE CONFIRM message:

- includes "CN information elements"; or
- includes the IE "Ciphering mode info"; or
- includes the IE "Integrity protection mode info"; or
- includes any one or both of the IEs "New C-RNTI" and "New U-RNTI":

the UE shall:

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM as response message using AM RLC.

If the UE receives an URA UPDATE CONFIRM message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows:

1> If V302 is equal to or smaller than N302, the UE shall:

2> set the variable PROTOCOL_ERROR_INDICATOR to TRUE;

…

2> in case of a URA update procedure:

3> set the contents of the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the URA UPDATE message for transmission on the uplink CCCH.

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302, the UE shall:

…

2> release all its radio resources;

2> enter idle mode;

2> Other actions the UE shall perform when entering idle mode from connected mode are specified in TS 25.331 subclause 8.5.2;

2> the procedure ends.

~~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

1. To confirm that the UE executes a URA update procedure after the expiry of timer T305.
2. 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.

Test Procedure

The UE is in 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 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 an UTRAN MOBILITY

INFORMATION CONFIRM message on the uplink DCCH. The UE returns to ~~CELL_FACH~~URA_PCH state. SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state. SS wait until T305 timer has expired.
2	→		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	→		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	→		UTRAN MOBILITY INFORMATION CONFIRM	
7	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

URA UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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~~34.108 clause 9 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	~~ASN.1 violation or encoding error~~ Message extension not comprehended

URA UPDATE CONFIRM (Step 3)

Use the URA UPDATE CONFIRM message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type found in ~~Annex A~~34.108 clause 9 , with the following exceptions:

Information Element	Value/remark
New U-RNTI SRNC Identity S-RNTI	 '0000 0000 0001' '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 sets 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~~ Message extension not comprehended ".

After step 5 the UE shall transmit an UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and returns to the URA_PCH ~~CELL_FACH~~ state.

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

The UE shall:

1> if the IE "URA identity" is included in a received message:

2> if the IE "RRC State Indicator" is included and set to "URA_PCH":

3> store this URA identity in the variable URA_IDENTITY;

3> after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read system information block type 2 in the selected cell;

3> if the stored URA identity in the variable URA_IDENTITY is not included in the list of URA identities in System Information Block type 2 in the selected cell, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:

4> if no URA update procedure is ongoing:

…

4> if a URA update procedure is ongoing:

5> take actions as specified in TS 25.331 subclause 8.3.1.10.

If the URA UPDATE CONFIRM message causes a confirmation error of URA identity list as specified in TS 25.331 subclause 8.6.2.1 the UE shall:

1> check the value of V302; and

1> if V302 is smaller or equal than N302:

2> set the IEs in the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the URA UPDATE message for transmission on the uplink CCCH;

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

…

~~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 8.3.1.10, 8.6.2.1

8.3.2.5.3 Test purpose

1. 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.

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 "RRC state indicator" set to "URA_PCH" 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, with "change of URA" set in IE "URA update cause", for a confirmation error of URA-ID list. SS continue to send the same URA UPDATE CONFIRM message until N302+1 URA UPDATE messages have been received. Then SS transmits a 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	Direction		Message	Comment
	UE	SS		
1				The UE is URA_PCH state. SS initializes counter K to 0
2	→		URA UPDATE	This message shall contain value "periodic URA update" set in IE "URA update cause" after expiry of timer T305.
3			Void	~~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.~~
4	←		URA UPDATE CONFIRM	SS transmits this message, setting the value "URA-ID 2" to IE "URA Identity".
5	→		URA UPDATE	This message shall contain value "change of URA" set in IE "URA update cause" after expiry of timer T305.
6				SS increments K by 1. If K is not greater than N302, proceed to step 7. If K is greater than N302, SS proceeds to step 8.
~~4~~ 7	←		URA UPDATE CONFIRM	SS transmits this message, setting the value "URA-ID 2" to IE "URA Identity". And then returns to step 5 ~~2~~.
~~5~~ 8	←		URA UPDATE CONFIRM	SS transmits this message, setting IE "URA Identity" to "URA-ID 1". This message also comprises IE "New U-RNTI".
~~6~~ 9	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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~~34.108 clause 9, with the following exceptions:

Information Element	Value/remark
URA Identity	2

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as specified in ~~Annex A~~34.108 clause 9 , 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 4 the UE shall re-transmit a URA UPDATE message with IE “URA update cause” set to “change of URA” 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 8 ~~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

The UE shall:

1> if the IE "URA identity" is included in a received message:

2> if the IE "RRC State Indicator" is included and set to "URA_PCH":

3> store this URA identity in the variable URA_IDENTITY;

3> after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read system information block type 2 in the selected cell;

3> if the stored URA identity in the variable URA_IDENTITY is not included in the list of URA identities in System Information Block type 2 in the selected cell, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:

4> if no URA update procedure is ongoing:

…

4> if a URA update procedure is ongoing:

5> take actions as specified in TS 25.331 subclause 8.3.1.10.

If the URA UPDATE CONFIRM message causes a confirmation error of URA identity list as specified in TS 25.331 subclause 8.6.2.1 the UE shall:

1> check the value of V302; and

1> if V302 is smaller or equal than N302:

2> set the IEs in the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

2> submit the URA UPDATE message for transmission on the uplink CCCH;

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

2> release all its radio resources;

2> enter idle mode;

2> perform the actions specified in TS 25.331 subclause 8.5.2 when entering idle mode from connected mode;

2> the procedure ends.

~~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 8.3.1.10, 8.6.2.1

8.3.2.6.3 Test purpose

1. 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.

Test Procedure

The UE is originally in 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 "RRC 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 broadcasted. Then the UE shall retry to transmit a URA UPDATE message, with "change of URA" set in IE "URA update cause", for N302 times and each time the SS responds with the URA UPDATE CONFIRM message similar to the previous one. After that, the UE shall enter idle state. SS waits for 5s and then calls for generic procedure C.1 to check that UE is in idle mode state. ~~SS transmits a PAGING TYPE 1 message with UE's identity. UE shall respond with a RRC CONNECTION REQUEST message.~~

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	→		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				SS increments K by 1.
4 ~~3~~	←		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 executes step 2.~~
5	→		URA UPDATE	The message shall indicate "change of URA" in IE "URA update cause". This message is sent following the expiry of timer T305. SS increments counter K by 1.
6	←		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 7, else executes step 5.
7 ~~4~~			Void	The UE shall enter idle state. SS waits for 5s.
8 ~~5~~	~~←~~		~~PAGING TYPE 1~~	~~SS pages the UE at its assigned paging occasion using the allocated UE identity.~~
9 ~~6~~	~~→~~		~~RRC CONNECTION REQUEST~~	~~The UE shall respond to this page as it has already entered the idle mode.~~
10 5	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode state, the test passes, otherwise it fails.

Specific Message Contents

URA UPDATE CONFIRM (Step 3)

Use the same message sub-type defined in ~~Annex A~~34.108 clause 9 , 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" in IE "URA update cause".

After step 6 ~~3~~ and if K is not greater than N302, the UE shall retry to transmit a URA UPDATE message, setting value "periodic URA update" in IE "URA update cause" after it detects the confirmation error of URA-ID list for the URA-ID included in the URA UPDATE CONFIRM message.

After step 6 ~~3~~ and if K is greater than N302, the UE shall stop transmitting URA UPDATE message and then enters idle state.

~~After step 5 the UE shall transmit a RRC CONNECTION REQUEST message to respond to the PAGING TYPE 1 message.~~

8.3.2.8 Void

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.~~

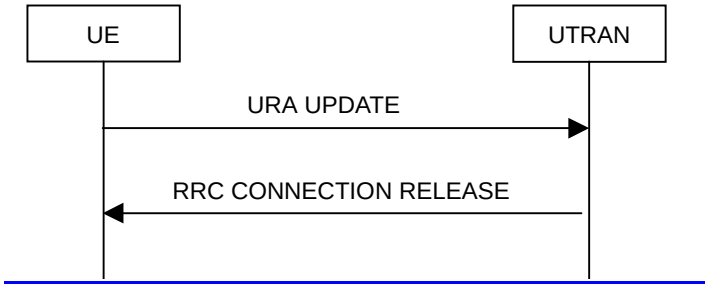

Figure 8.3.1-10: URA update procedure, failure case

When the UTRAN receives a CELL UPDATE/URA UPDATE message, the UTRAN should:

1> … or

1> initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

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; and

1> if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI; or

1> if the message is received on DCCH:

the UE shall:

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the CCCH:

3> …

3> enter idle mode;

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.

Test Procedure

The UE is in 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	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T305 timer has expired.
2	→		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 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 - S-RNTI URA Update Cause	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Periodic URA update'

RRC CONNECTION RELEASE (Step 3)

Use the same message sub-type found in Annex A

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 enter idle state.

8.3.2.10 URA Update: Reception of URA UPDATE CONFIRM message that causes invalid configuration

8.3.2.10.1 Definition

8.3.2.10.2 Conformance Requirement

If the variable INVALID_CONFIGURATION is set to TRUE, the UE shall:

1> if V302 is equal to or smaller than N302:

2> in case of a URA update procedure:

3> set the contents of the URA UPDATE message according to TS 25.331 subclause 8.3.1.3;

3> submit the URA UPDATE message for transmission on the uplink CCCH.

2> increment counter V302;

2> restart timer T302 when the MAC layer indicates success or failure to transmit the message.

1> if V302 is greater than N302:

…

~~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. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.~~

Reference

3GPP TS 25.331 clause 8.3.1.9

8.3.2.10.3 Test Purpose

1. To confirm that the UE retransmits a 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.

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.

Test Procedure

The UE is in 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. SS then transmit a valid URA UPDATE CONFIRM UPDATE message to end the procedure.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T305 timer has expired.
2	→		URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE "URA update cause".
3	←		URA UPDATE CONFIRM	
4	→		URA UPDATE	IE "Protocol error indicator" is set to TRUE and IE "Protocol error information" is set to "Information element value not comprehended".
5			Void	
6			Void	
7	←		URA UPDATE CONFIRM	

URA UPDATE (Step 2)

The same message found in ~~Annex A~~34.108 clause 9 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~~34.108 clause 9 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'
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~~34.108 clause 9 , with the following exception:

Information Element	Value/remark
RRC State Indicator	CELL_DCH

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 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".

8.3.2.11 URA Update: Cell reselection to cell of another PLMN belonging to the equivalent PLMN list

8.3.2.11.1 Definition

8.3.2.11.2 Conformance requirement

1. A UE in URA_PCH state shall initiate the URA update procedure in the following cases:
   - URA reselection:
     - if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or
     - if the list of URA identities in system information block type 2 is empty; or
     - if the system information block type 2 can not be found:
       - perform URA update using the cause "change of URA".
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.
   - 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.
   - The cell is not barred, see clause 5.3.4.1 in TS 25.304.
   - The cell is not part of the list of "forbidden LAs for roaming"
   - The cell selection criteria are fulfilled, see clause 5.2.3.1.2 in TS 25.304.
3. The Mobile Equipment shall store a list of "equivalent PLMNs". This list is replaced or deleted at the end of each location update procedure, routing area update procedure and GPRS attach procedure. The stored list consists of a list of equivalent PLMNs as downloaded by the network plus the PLMN code of the network that downloaded the list. The stored list shall not be deleted when the MS is switched off. The stored list shall be deleted if the SIM is removed. The maximum number of possible entries in the stored list is six.

Reference

3GPP TS 25.331 clause 8.3.1.2.

3GPP TS 25.304 clause 4.3.

3GPP TS 24.008 clause 4.4.1.

8.3.2.11.3 Test purpose

1. To confirm that the UE executes a URA update procedure after a successful reselection of another UTRA cell with a URA identity that is not the URA of the UE and with a PLMN identity different from the original cell but with a PLMN that is part of the equivalent PLMN list in the UE. To confirm that the UE sends the correct uplink response message when executing cell update procedure due to cell reselection.

NOTE: Verifies conformance requirements 1, 2 and 3.

2. To confirm that the UE refrains from executing a URA update procedure to a better UTRA cell with another PLMN identity when that PLMN identity is not part of the equivalent PLMN list in the UE.

NOTE: Test case in 8.3.2.1 is a test where the UE reselects to a cell with the same PLMN identity as the registered PLMN.

8.3.2.11.4 Method of test

Initial Condition

System Simulator: 3 cells - Cell 1 is active, with the downlink transmission power shown in column marked "T0" in table 8.3.2.1-1, while cell 2 and cell 3 is inactive.

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.

UE: Shall have stored equivalent PLMN list containing PLMN-1 and PLMN-2. The equivalent PLMN list stored in the UE shall not contain PLMN-3. The UE shall also have stored the URA identity URA-ID 1 from the list of URA-IDs in cell 1.

Test Procedure

Table 8.3.2.11-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
PLMN identity		PLMN-1			PLMN-2			PLMN-3		
URA identity		URA-ID 1			URA-ID 2			URA-ID 3		
CPICH RSCP (FDD)	dBm	-73	-79	-79	Cell 2 is switched off	-73	-79	Cell 3 is switched off	Cell 3 is switched off	-73
P-CCPCH RSCP (TDD)	dBm	-62	-68	-68	Cell 2 is switched off	-62	-68	Cell 3 is switched off	Cell 3 is switched off	-62

Table 8.3.2.11-1 illustrates the downlink power to be applied for the 3 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.

a) At T0, the SS activates Cell 1.

b) At T1, the SS activates Cell 2, and monitors Cell 2 for received messages from UE.

c) UE re-selects to Cell 2, and sends a URA UPDATE message

d) At T2, the SS activates Cell 3, and monitors Cell 3 for received messages from UE.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				At T0: UE is camped on Cell 1 and registered to PLMN1
2	→		URA UPDATE	At T1: Sent in Cell 2 The value "change of URA" set in IE "URA update cause".
3	←		URA UPDATE CONFIRM	
4	→		UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

FFS

8.3.2.11.5 Test requirement

The UE shall send a URA UPATE message after T1 and refrain from sending a URA update (or any other message) after T2.

8.3.2.12 Restricted cell reselection to a cell belonging to forbidden LA list (URA_PCH)

8.3.2.12.1 Definition

8.3.2.12.2 Conformance requirement

1. A UE in URA_PCH state shall initiate the URA update procedure in the following cases:
   - URA reselection:
     - if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or
     - if the list of URA identities in system information block type 2 is empty; or
     - if the system information block type 2 can not be found:
       - perform URA update using the cause "change of URA".
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.
   - 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.
   - The cell is not barred, see clause 5.3.1 in TS 25.304.
   - The cell is not part of the list of "forbidden LAs for roaming"
   - The cell selection criteria are fulfilled, see clause 5.2.3.1.2 in TS 25.304.
3. The Mobile Equipment shall contain a list of "forbidden location areas for roaming", as well as a list of "forbidden location areas for regional provision of service". These lists shall be erased when the MS is switched off or when the SIM is removed, and periodically (with period in the range 12 to 24 hours). 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" or with the cause "Location Area not allowed". The lists shall accommodate each 10 or more location area identifications. When the list is full and a new entry has to be inserted, the oldest entry shall be deleted.

Reference

3GPP TS 25.331 clause 8.3.1.2.

3GPP TS 25.304 clause 4.3.

3GPP TS 24.008 clause 4.4.1.

8.3.2.12.3 Test purpose

1. To confirm that the UE refrains from selects a UTRA cell and performs a URA update if that cell has a LA identity that is part of the list of LAs stored in the UE as "forbidden location areas for roaming".

NOTE: Test case in 8.3.2.1 is a test where the UE reselects to a cell with the same LA identity as the LA identity in the original cell.

8.3.2.12.4 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 8.3.2.1-1, while cell 2 is inactive.

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.

UE: Shall have stored LA-ID 2 into the list of "forbidden location areas for roaming". The UE shall also have stored the URA identity URA-ID 1 from the list of URA-IDs in cell 1.

Test Procedure

Table 8.3.2.12-1

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
URA identity		URA-ID 1		URA-ID 2	
LA identity		LA-ID 1		LA-ID 2	
CPICH RSCP (FDD)	dBm	-73	-79	Cell 2 is switched off	-73
P-CCPCH RSCP (TDD)	dBm	-62	-68	Cell 2 is switched off	-62

Table 8.3.2.12-1 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" and "T2" are to be applied subsequently.

a) At T1, verify that the UE does not reselect to cell 2 and not send a URA update in cell 2, although cell 2 is the best cell.

Expected sequence

-

Specific Message Contents

-

8.3.2.12.5 Test requirement

The UE shall not send a URA UPDATE (or any other message) in Cell 2 after T1.

8.3.2.13 URA Update: Change of URA due to HCS Cell Reselection

8.3.2.13.1 Definition

8.3.2.13.2 Conformance requirement

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 >= 0. Note that this rule is not valid when UE high-mobility is detected.
- all cells, not considering HCS priority levels, if no cell fulfil the criterion H >= 0. This case is also valid when it is indicated in system information that HCS is not used, that is when serving cell does not belong to a hierarchical cell structure.

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 and the quality measure for cell selection and re-selection is set to CPICH RSCP, the UE shall perform cell re-selection to that FDD cell.

In all cases, the UE shall reselect the new cell, only if the following conditions are met:

- the new cell is better ranked than the serving cell during a time interval Treselection.
- more than 1 second has elapsed since the UE camped on the current serving cell.

…

A UE in URA_PCH state shall initiate the URA update procedure in the following cases:

1> URA reselection:

2> if the UE detects that the current URA assigned to the UE, stored in the variable URA_IDENTITY, is not present in the list of URA identities in system information block type 2; or

…

3> perform URA update using the cause "change of URA".

~~This procedure is to update UTRAN with the current URA of the UE after a change of URA has occurred in URA_PCH state with HCS parameter applied. 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.

3GPP TS 25.304 clause 5.2.6.1.4.

3GPP TS 25.304 clause 5.4.3.

8.3.2.13.3 Test purpose

1. To confirm that the UE can read HCS related SIB information and act upon all HCS parameters.
2. To confirm that the UE executes an URA update procedure after the successful change of URA due to HCS Cell Reselection.

3. To confirm UE responds correctly when it re-selects to a new cell while waiting from URA UPDATE CONFIRM message from SS.

8.3.2.13.4 Method of test

Initial Condition

System Simulator: 3 cells - Cell 1 is active with URA-ID 1 and downlink transmission power shown in column marked "T0" in table 8.3.2.11-1. Cell2 with URA-ID 1 andCell 3 with URA-ID 2 are switched off

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 from the list of URA-ID in cell 1

Specific Message Content

For system information blocks 3, 4, 11 & 12 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

Contents of System Information Block type 3 (FDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qrxlevmin	-103 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- $Qhyst1_S$	10 (gives actual value of 20 dB)
- $Qhyst2_S$	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- $S_{intrasearch}$	10 dB
- $S_{intersearch}$	10 dB
- $S_{searchHCS}$	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- $S_{search,RAT}$	-32 dB
- $S_{HCS,RAT}$	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Q_{hyst1_S}	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	6
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 1)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Test Procedure

Table 8.3.2.13-1

Parameter	Unit	Cell 1			Cell 2			Cell 3		
		T0	T1	T2	T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 1			Ch. 1		
HCS Priority		6			7			7		
CPICH Ec (FDD)	dBm	-60~~-61~~	-60~~-76~~	-60~~-61~~	-80	-80	-70~~-67~~	-80	-70	-75~~-73~~
H* (After PenaltyTime)		16~~15~~	16~~0~~	16~~1 5~~	-4	-4	6~~9~~	-4	6	1~~3~~
P-CCPCH RSCP (TDD)	dBm	-61	-61	-61	-80	-80	-67	-80	-73	-73
H* (After PenaltyTime)		15	15	15	-4	-4	9	-4	3	3
R* (After PenaltyTime)		-41	-41	-41	-60	-60	-47	-60	-53	-53

* this parameter is calculated internally in the UE and is only shown for clarification of the test procedure.

The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. SS configures Cell 2 and 3 with power level given in column "T0~~O~~", and URA-Id 1 and 2 respectively and starts broadcast of BCCH on the primary CCPCH in cells 2 and 3. UE shall remain camped on the Cell 1 even after expiry of penalty time i.e. 40 seconds. SS sets downlink transmission power settings according to columns "T1" in table 8.3.2.13-1. 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 3 after at-least 40 Seconds (Penalty Time) after the power levels have been changed. UE on performing cell reselection to cell 3 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 URA UPDATE CONFIRM message which includes the IEs "RRC State Indicator" and "URA-ID" to the UE on the downlink DCCH. The "RRC State Indicator" is set to "URA_PCH". UE returns to URA_PCH state in cell 3 without sending a uplink response message. Next SS adjusts the transmission power according to 'T2' column. UE shall re-select to cell 2 after atleast penalty time of 40 seconds, and transmit 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 URA UPDATE message to SS. Finally SS shall transmit URA UPDATE CONFIRM message to UE.

Expected sequence

Step	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 configures cell 2 (with URA-ID 1) and Cell 3 (with URA-ID 2) and power levels as given in column T0 of table 8.3.2.13-1 and starts transmission of BCCH.
3				UE shall Remain camped on Cell 1 and in URA_PCH state even after expiry of Penalty time.
4				SS set the power transmission of all cells according to column 'T1' of table 8.3.2.13-1.
5	→		URA UPDATE	The UE shall perform a cell reselection first after the penalty time to cell 3 and when it finds that its current URA-ID 1 is not in the new 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				SS set the power transmission of all cells according to column 'T2' of table 8.3.2.13-1.
8	→		URA UPDATE	In Cell 2
9				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 8.3.2.13-1.
10	→		URA UPDATE	
11	←		URA UPDATE CONFIRM	

Specific Message Contents

Contents of System Information Block type 3 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 3 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- SIB4 indicator	TRUE
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	Not Present
- Cell selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- Slimit,SearchRAT	Not Present
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (FDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- CHOICE mode	FDD
- Sintrasearch	16 dB
- Sintersearch	0 dB
- SsearchHCS	35 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Qhyst2s	0 dB
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 4 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2 and 3)

Information Element	Value/remark
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping Info	Not present
- Cell_selection_and_reselection_quality_-measure	(no data)
- CHOICE mode	TDD
- Sintrasearch	10 dB
- Sintersearch	10 dB
- SsearchHCS	47 dB
- RAT List	This parameter is configurable
- RAT identifier	GSM
- Ssearch,RAT	-32 dB
- SHCS,RAT	Not Present
- $S_{limit,SearchRAT}$	Not Present
- Qqualmin	-20 dB
- Qrxlevmin	-103 dBm
- Qhyst1s	10 (gives actual value of 20 dB)
- Treselections	0 seconds
- HCS Serving cell information	
-HCS Priority	7
- Q HCS	39 (results in actual value of –76)
- TcrMax	Not Present

Contents of System Information Block type 11 (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	-20dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.3 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 2)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 11 (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	

- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 11 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

Contents of System Information Block type 12 in connected mode (FDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	CPICH RSCP
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells

- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.1 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Read SFN indicator	TRUE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Refer to clause titled "Default settings for cell No.2 (FDD)" in clause 6.1
- Primary CPICH TX power	Not Present
~~- Read SFN indicator~~	~~TRUE~~
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info	
- Qoffset1$_{s,n}$	-20 dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	33 dBm
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	FDD
- Qqualmin	-20 dB
- Qrxlevmin	-115 dBm

Contents of System Information Block type 12 (3.84 Mcps TDD and 1.28 Mcps TDD) (Cell 3)

Information Element	Value/remark
- Measurement control system information	
- Use of HCS	used
- Cell_selection_and_reselection_quality_-measure	(no data)
- Intra-frequency measurement system information	
- Intra-frequency measurement identity	1
- Intra-frequency cell info list	
- CHOICE intra-frequency cell removal	Remove no intra-frequency cells
- New intra-frequency cells	
- Intra-frequency cell id	1
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20 dB
- HCS neighbouring cell information	Present
- HCS_Priority	6
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm
- Intra-frequency cell id	2
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- CHOICE mode	TDD
- Primary CCPCH info	
- Cell parameters ID	Reference clause 6.1 Default settings for cell
- Primary CCPCH TX power	Not Present
- Timeslot list	Not Present
- Burst type	Not Present
- Cell Selection and Re-selection info	
- $Qoffset1_{s,n}$	-20dB
- HCS neighbouring cell information	Present
- HCS_Priority	7
-Q_HCS	39 (results in actual value of –76)
-HCS Cell Reselection Information	
- Penalty Time	40
-Temporary Offset	10
- CHOICE mode	TDD
- Qrxlevmin	-103 dBm

URA UPDATE (Step 5, 8 and 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 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~~34.108 clause 9 , 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~~34.108 clause 9 , with the following exceptions:.

Information Element	Value/remark
URA identity	URA-ID 1

8.3.2.13.5 Test requirement

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 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 transmit URA UPDATE message setting value "change of URA" into IE "URA update cause".

8.3.3.2 UTRAN Mobility Information: Failure (Invalid message reception)

8.3.3.2.1 Definition

8.3.3.2.2 Conformance Requirements

If the UTRAN MOBILITY INFORMATION message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a UTRAN MOBILITY INFORMATION FAILURE message on the uplink DCCH using AM RLC;

1> set the IE "RRC transaction identifier" in the UTRAN MOBILITY INFORMATION FAILURE message to the value of "RRC transaction identifier" in the entry for the UTRAN MOBILITY INFORMATION message in the table "Rejected transactions" in the variable TRANSACTIONS, and;

1> set the IE "failure cause" to the cause value "protocol error";

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the UTRAN MOBILITY INFORMATION FAILURE message has been submitted to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid UTRAN MOBILITY INFORMATION message has not been received;

2> and the procedure ends.

~~When the UE receives an invalid UTRAN MOBILITY INFORMATION message, 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.~~

References

3GPP TS 25.331 clauses 8.3.3.6

8.3.3.2.3 Test Purpose

1. To confirm that the UE ignore the erroneous UTRAN MOBILITY INFORMATION message and report this event to the UTRAN by sending UTRAN MOBILITY INFORMATION FAILURE message, stating the appropriate failure cause and information.

8.3.3.2.4 Method of test

Initial Conditions

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 brought to CELL_FACH state. SS waits for T305 to expire. The UE shall transmit a CELL UPDATE message. SS sends CELL UPDATE CONFIRM message to the UE on the downlink DCCH. Then SS transmits a UTRAN MOBILITY INFORMATION message, which contains an unexpected critical message extension, to the UE on the DCCH using AM-RLC mode. ~~In this message, the all IEs except "Message Type" are not present.~~ The UE shall respond by transmitting the UTRAN MOBILITY INFORMATION FAILURE message, indicating "protocol error" in IE "failure cause" and also "~~ASN.1 violation and encoding error~~ Message extension not comprehended " in IE "Protocol error information". After receiving the UTRAN MOBILITY INFORMATION FAILURE message, SS waits for T305 to expire. The UE shall transmit a CELL UPDATE message with the original U-RNTI identity assigned. SS sends CELL UPDATE CONFIRM message to the UE on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state.
1a				SS waits for a period up to timer T305 to allow the UE to start performing a cell updating procedure.
1b	→		CELL UPDATE	
1c	←		CELL UPDATE CONFIRM	
2	←		UTRAN MOBILITY INFORMATION	See specific message content.
3	→		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	→		CELL UPDATE	
6	←		CELL UPDATE CONFIRM	

Specific Message Content

UTRAN MOBILITY INFORMATION (Step 2)

Use the UTRAN MOBILITY INFORMATION message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

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 ~~ASN.1 violation and encoding error'~~ Message extension not comprehended

CELL UPDATE (Step 1b and 5)

The same message found in ~~Annex A~~34.108 clause 9 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 '0000 0000 0001'B Check to see if set to '0000 0000 0000 0000 0001'B Check to see if set to 'periodical cell updating'

CELL UPDATE CONFIRM (Step 1c and 6)

Use the same message sub-type as in ~~Annex A~~34.108 clause 9 .

8.3.3.2.5 Test Requirement

After step 1a 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 2 the UE shall transmit UTRAN MOBILITY INFORMATION FAILURE message, indicating the value "protocol error" in IE "failure cause" and also "~~ASN.1 violation and encoding error~~ Message extension not comprehended " 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.

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 any of the following conditions are valid:

…

- a radio link in the IE "Radio link addition information" is also present in the IE "Radio Link Removal Information"; and/or

…

- the variable INVALID_CONFIGURATION is set to TRUE:

the UE shall:

1> keep the active set as it was before the ACTIVE SET UPDATE message was received;

1> transmit an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC;

1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE FAILURE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> set the IE "failure cause" to "Invalid configuration";

1> When the ACTIVE SET UPDATE FAILURE message has been submitted to lower layers for transmission:

2> the procedure ends on the UE side.

~~If the UTRAN attempts to add a radio link but the additional radio link is specified in both IE "Radio Link Addition Information" and IE "Radio Link Removal Information", 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.~~

Reference

3GPP TS 25.331 clause 8.3.4.5

8.3.4.4.3 Test purpose

1. To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC, if the 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".

8.3.4.4.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 and 2 are active.

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 8.3.4.4

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-60	-60

Table 8.3.4.4 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. SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.4. 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. 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". 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. UE then send another MEASUREMENT REPORT to SS 4s after step 2. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.4
2	→		MEASUREMENT REPORT	
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".
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "Invalid configuration" in IE "failure cause".
5	→		MEASUREMENT REPORT	
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

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	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	Calculated value from Cell synchronisation information
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- Spreading factor	Reference TS 34.108 clause 6.10 Parameter set
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2

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 transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC, 4s after step 2.

8.3.4.5 Active set update in soft handover: Reception of an ACTIVE SET UPDATE message in wrong state

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 perform procedure specific error handling as follows. The UE shall:

1> transmit a ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC;

1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE FAILURE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> set the IE "failure cause" to the cause value "protocol error";

1> include the IE "Protocol error information" with the IE "Protocol error cause" set to "Message not compatible with receiver state";

1> when the ACTIVE SET UPDATE FAILURE message has been delivered to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the ACTIVE SET UPDATE message has not been received;

2> and the procedure ends.

~~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.~~

Reference

3GPP TS 25.331 clause 8.3.4.0

8.3.4.5.3 Test purpose

1. To confirm that the UE transmit 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.

Test Procedure

Table 8.3.4.5

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-60	-60

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 then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS. 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. UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
0a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
0b	→		MEASUREMENT REPORT	
1				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.5
2			Void	
3	←		ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "Radio Link Addition Information".
4	→		ACTIVE SET UPDATE FAILURE	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".
5	→		MEASUREMENT REPORT	
6	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 0a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	RACHorCPCH
- UL Target Transport Channel ID	Not Present
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 0b and 5)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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

ACTIVE SET UPDATE

The message to be used in this test is defined in ~~Annex A~~34.108 clause 9 , 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 2
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	~~Calculated value from Cell synchronisation information~~0
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- Spreading factor	Reference TS 34.108 clause 6.10 Parameter set
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present

8.3.4.5.5 Test requirement

After step 0a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

~~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 4, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on RACH at every 8s interval.

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

If the ACTIVE SET UPDATE message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> transmit a ACTIVE SET UPDATE FAILURE message on the uplink DCCH using AM RLC;

1> set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE FAILURE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> set the IE "failure cause" to the cause value "protocol error";

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> when the ACTIVE SET UPDATE FAILURE message has been delivered to lower layers for transmission:

2> continue with any ongoing processes and procedures as if the invalid ACTIVE SET UPDATE message has not been received;

2> and the procedure ends.

~~The UE shall keep its old configuration when the UE receives an ACTIVE SET UPDATE message, which does not include any IEs except IE "Message Type" and transmit an ACTIVE SET UPDATE 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".~~

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.7.3 Test Purpose

1. To confirm that the UE retains its active set list and transmits an ACTIVE SET UPDATE FAILURE message when it receives an invalid ACTIVE SET UPDATE message.

8.3.4.7.4 Method of test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active.

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 (Integrity protection algorithm is not applied at the start of test)

Test Procedure

Table 8.3.4.7

Parameter	Unit	Cell 1		Cell 2	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-60	-60

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. SS configures its downlink transmission power 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. SS transmits an ACTIVE SET UPDATE message which contains an unexpected critical message extension ~~which does not include any IEs except IE "Message Type"~~. The UE shall transmit an ACTIVE SET UPDATE FAILURE message, stating the reason "~~ASN.1 violation or encoding error~~ Message extension not comprehended " in the IE "Protocol error information". UE then send another MEASUREMENT REPORT to SS 4s after step 2. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS configures its downlink transmission power settings according to columns "T1" in table 8.3.4.7
2	→		MEASUREMENT REPORT	
3	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which does not include any IEs except IE "Message Type"
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "~~ASN.1 violation error or encoding error~~ Message extension not comprehended " in IE "protocol error information".
5	→		MEASUREMENT REPORT	
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

Use the ACTIVE SET UPDATE message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	~~ASN.1 violation or encoding error~~ Message extension not comprehended

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 transmit an ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "~~ASN.1 violation or encoding error~~ Message extension not comprehended " shall be set in IE "Protocol Error Information".

After step 4 the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH using AM RLC, 4s after step 2.

3GPP TSG- T1 Meeting #16
Yokohama, Japan, 2nd Aug 2002

T1-020535

3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th- 31st July 2002

Tdoc T1S-020500

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 279** ⌘ ev - ⌘ Current version: 5.0.1 ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to non-package 1&2 TCs in clause 8.4 of TS 34.123-1 (merging T1S-020458 and T1S-020363)
Source:	⌘	Motorola, Panasonic
Work item code:	⌘	TEI
Date:	⌘	30/07/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘

1. Update Conformance Requirement according to core specification 25.331.
2. Editorial changes.
3. Add generic procedure at the end of some test cases to verify the final state of the UE.
4. Add specific procedures, either before or after the actual testing, to verify that the UE continues with any ongoing processes and procedures as if the erroneous message has not been received.
5. After the modification of system information, the SS should send PAGING TYPE 1 or SYSTEM INFORMATION CHANGE INDICATION message to notify the UE.
6. It is more stable to perform measurement test cases when RABs are established in either CELL_FACH or CELL_DCH state, therefore the initial conditions of some of the test cases have to be revised or in some cases RABs are proposed to be set up before the measurement takes place.
7. In some test, RABs are established when UE is in CELL_FACH, such test cases are not applicable to CS only UE.
8. In clause 8.4.1.29, additional test purpose is added to check that the UE includes IE “Measured results on RACH” in MEASUREMENT REPORT message which is transmitted on RACH.
9. ICS/IXIT statement is applied to Inter frequency measurement test cases.
10. In some test cases, using ASN.1 error to simulate invalid message will not cause the UE to transmit failure message (rather RRC STATUS will be sent), it is proposed here to use critical message extension to simulate invalid messages in these test cases.
11. Changed the Cell Identity’s of GSM cells from 0,1,2 to 1,2,3.
12. Corrected Specific Message Content.

Modifications from T1S-020458 (Motorola) are highlighted in yellow below.

Summary of change: ⌘

In clause 8.4.1.4

- Conformance requirement and Test Purpose are updated.
- Step 2-4 are missing in the expected sequence table. The test steps were reinstated.

In clause 8.4.1.6

- Conformance requirement and Test Purpose are updated.
- The Initial Condition of UE is PS-DCCH+DTCH_DCH (state 6-10). This test is not applicable to CS-DCCH+DTCH_DCH (state 6-9).
- "NOTE: The value x seconds …." is not in use anymore and thus deleted.
- ICS/IXIT statement is added and accordingly the test procedure and message contents are revised.

In clause 8.4.1.9

- Conformance requirement and Test Purpose are updated.

In clause 8.4.1.10

- Conformance requirement and Test Purpose are updated.
- Critical extension is added to the message content of MEASUREMENT CONTROL (step 4). This will create "Unexpected Critical Extension" error, not "ASN.1 violation".

In clause 8.4.1.11

- Conformance requirement and Test Purpose are updated.

In clause 8.4.1.12

- Conformance requirement and Test Purpose are updated.

In clause 8.4.1.13

- Conformance requirement and Test Purpose are updated.

In clause 8.4.1.15

- Conformance requirement and Test Purpose are updated.
- The Initial Condition of UE should be "CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)", and not "CS-DCCH+DCH (State 6-5) or PS-DCCH+DCH (State 6-7)".
- Before step 2, SS sends a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.
- UE shall continue its periodical traffic volume measurement. After step 17, UE shall send MEASUREMENT REPORT back to SS. This is to verify that the UE "continues with any ongoing processes and procedures as if the invalid message has not been received".
- Corrected typing error.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.20

- Conformance requirement and Test Purpose are updated.
- Reference is added.
- Corrected typing error.

In clause 8.4.1.21

- Conformance requirement and Test Purpose are updated.
- Reference is added.

In clause 8.4.1.22

- Conformance requirement and Test Purpose are updated.
- Reference is added.
- The Initial Condition of UE should be “CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)”.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.24

- Conformance requirement and Test Purpose are updated.
- The Initial Condition of UE should be “CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)”.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.25

- Conformance requirement is updated.
- The Initial Condition of UE should be “CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)”.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- The value of IE “Used frequency W” is given as 4, which means that it has to be set to 40, but the definition doesn’t allow this (can take values (0, 0.1..2.0 by step of 0.1)), it has be set to 0.4

In clause 8.4.1.26

- Conformance requirement is updated.
- The Initial Condition of UE should be “CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)”.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.27

- Conformance requirement and Test Purpose are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.28

- Conformance requirement and Test Purpose are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.

In clause 8.4.1.29

- Conformance requirement and Test Purpose are updated and added.
- References are added.
- SS called generic procedure C.2 to check that UE is in CELL_FACH at the end of test.
- Step 1a and 1b are added to request the UE to send measured result on messages sent on RACH.
- Messages in step 3 and 4 are revised to check that the UE send IE

	"Measured results on RACH" in MEASUREMENT REPORT messages sent on RACH. • In Measurement control message, IE 'RB buffer payload average' and 'RB buffer payload variance' are explicitly set as FALSE, because these IEs are MP. • In Measurement Report UE shall include Report on all UM and AM Bearers mapped onto the event configured uplink transport channel. In clause 8.4.1.30 • Conformance requirement and Test Purpose are updated. • Reference is added. • SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test. • In Measurement control message, IE 'RB buffer payload average' and 'RB buffer payload variance' are explicitly set as FALSE, because these IEs are MP. • In Measurement Report UE shall include Report on all UM and AM Bearers mapped onto the event configured uplink transport channel. In clause 8.4.1.37 • Test Purpose is updated. • SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test. In clause 8.4.1.38 • Test Purpose is updated. • SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test. In clause 8.4.1.39 • Test Purpose is updated. • SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
Consequences if not approved: ⌘	If changes are not approved, UE might not be tested properly.

Clauses affected: ⌘	8.4.1.4, 8.4.1.6, 8.4.1.9, 8.4.1.10, 8.4.1.11, 8.4.1.12, 8.4.1.13, 8.4.1.15, 8.4.1.20, 8.4.1.21, 8.4.1.22, 8.4.1.24, 8.4.1.25, 8.4.1.26, 8.4.1.27, 8.4.1.28, 8.4.1.29, 8.4.1.30, 8.4.1.31, 8.4.1.33, 8.4.1.34, 8.4.1.35, 8.4.1.36, 8.4.1.37, 8.4.1.38, 8.4.1.39, 8.4.1.40
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	Affects R99, REL-4, REL-5

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.4.1.4 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

Upon transition from idle mode to CELL_FACH state, the UE shall:

1> begin or continue monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11);

~~After entering CELL_FACH state from idle mode, the UE shall start to monitor the cells listed in IE "inter-frequency cell info list" 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

1. To confirm that the UE begins to monitor the list of cells assigned in the IE "inter-frequency cell info list" 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.

8.4.1.4.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and cell 4 are active.

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).

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.

Table 8.4.1.4-1

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

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 "inter-frequency cell list" IE.

SS prompts the operator to make an outgoing call of a supported traffic class. 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 not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings for 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 CELL UPDATE CONFIRM message, which includes IE "New C-RNTI", on the downlink DCCH. UE shall then reply with a UTRAN MOBILITY INFORMATION CONFIRM message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		System Information Block type 11	The UE is PS-DCCH+DTCH_FACH (state 6-11) in cell 1. System Information Block type 11 to be transmitted is different from the default settings (see specific message contents)
2	↔		SS executes procedure P6 (clause 7.4.4.4.2) specified in TS 34.108.~~Void~~	
3	↔→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.~~Void~~	
4	↔←		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.~~Void~~	
5	→		Void	
6				SS checks to see that no MEASUREMENT REPORT messages are received.
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 message content.
10	→		UTRAN MOBILITY INFORMATION CONFIRM	

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 coefficient	2
- Inter-frequency FDD measurement indicator	TRUE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells~~info list~~	
- Inter-frequency cell id	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
- 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	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- CHOICE Mode	FDD
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

CELL UPDATE (Step 8)

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI assigned during the execution of procedure P6.
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 9)

Use the message sub-type in default message content defined in Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 10)

Only the message type is checked.

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.

After step 9, the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on uplink DCCH AM RLC.

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

Upon transition from CELL_DCH to CELL_FACH/ CELL_PCH/URA_PCH state, the UE shall:

1> stop the inter-frequency type measurement reporting assigned in a MEASUREMENT CONTROL message;

1> begin monitoring cells listed in the IE "inter-frequency cell info list" received in System Information Block type 12 (or System Information Block type 11);

1> in CELL_FACH state:

2> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

~~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 a transition from CELL_DCH state to CELL_FACH state, the UE shall begin to monitor cells listed in the IE "inter-frequency cell info" 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

1. To confirm that UE ceases inter-frequency type measurement reporting assigned in MEASUREMENT CONTROL message when moving from CELL_DCH state to CELL_FACH.

2. To confirm that the UE begins to monitor the 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 CELL_FACH state.

~~To confirm that UE ceases inter-frequency type measurement reporting assigned in MEASUREMENT CONTROL message when moving from CELL_DCH state to CELL_FACH. To confirm that the UE begins to monitor the 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 CELL_FACH state.~~

8.4.1.6.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and cell 2 are active.

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~~.

Related ICS/IXIT statements

- Compressed mode required yes/no

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.

Table 8.4.1.6-1

Parameter	Unit	Cell 1		Cell 4	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-60	-75	-75	-60

The UE is initially in CELL_DCH state. The System Information Block type 11 message is modified with respect to the default settings, so that no measurement tasks are required of the UE. If UE requires compressed mode, 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 sends a MEASUREMENT CONTROL message to the UE, including cell 4 into the IE "inter-frequency cell info". The IE "CHOICE reporting criteria" in this message is set to "periodic reporting criteria". 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 results" to report cell 4's CPICH RSCP value. SS transmits PHYSICAL CHANNEL RECONFIGURATION message ~~again~~ and reconfigures common physical channels. The UE shall move to CELL_FACH state and then return a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to SS~~and then move to CELL_FACH state~~.

SS modifies the contents of Master Information Block (MIB) and System Information Block (SIB) type ~~11~~12. In SIB ~~11~~12, cell 4 is added to the cells listed in the "inter-frequency cell info" IE. SS transmit SYSTEM INFORMATION CHANGE INDICATIONmessage to UE. SS waits for 8 seconds to detect any uplink MEASUREMENT REPORT messages. SS verifies that no MEASUREMENT REPORT message(s) are received 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 "cell update cause" IE as "cell re-selection". SS replies with CELL UPDATE CONFIRM message, which includes IE "New C-RNTI", on the downlink DCCH to complete the cell update procedure. The UE shall reply with a UTRAN MOBILITY INFORMATION CONFIRM message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11	~~UE is CS-DCCH+DTCH_DCH (state 6-9) or~~ PS-DCCH+DTCH_DCH (state 6-10) in cell 1. System Information Block type 11 is modified with respect to the default settings. All measurement and reporting activities are disabled in this message.
2			Void	If compresed mode is not required (refer ICS/IXIT), goto step 8.
3		~~→~~	Void	
4		~~←~~	Void	
5		~~→~~	Void	
6		←	PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
7		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall remain in CELL_DCH state.
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		→	MEASUREMENT REPORT	UE shall transmit this message to report cell 4's CPICH RSCP value.
10		←	PHYSICAL CHANNEL RECONFIGURATION	SS configures common physical channels.
11		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_FACH state.
12		←	Master Information Block, System Information Block type ~~11~~12	SS modifies MIB and SIB ~~11~~12. Cell 4 is included in the IE "inter-frequency cell info"
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 the UE to re-select to a new cell.
15		→	CELL UPDATE	UE shall perform cell re-selection and transmit this message on the new cell.
16		←	CELL UPDATE CONFIRM	See message content.
17		→	UTRAN MOBILITY INFORMATION CONFIRM	

~~NOTE: The value [x] seconds is to 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	
- FACH Measurement occasion cycle length coefficient	2
- Inter-frequency FDD measurement indicator	FALSE
- Inter-frequency TDD measurement indicator	FALSE
- Inter-RAT measurement indicators	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	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"

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	
- Downlink DPCH info common for all RL	Not Present
~~- Timing Indication~~	~~Maintain~~
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	~~0 (Single)~~
- CHOICE Mode	FDD
~~- Power offset PPilot-DPDCH~~	~~0~~
~~- DL rate matching restriction information~~	~~Not Present~~
~~- Spreading factor~~	~~Refer to the parameter set in TS 34.108 clause 6.10~~
~~- Fixed or flexible position~~	~~Reference to TS34.108 clause 6.10 Parameter SetFlexible~~
~~- TFCI existence~~	~~Reference to TS34.108 clause 6.10 Parameter SetFALSE~~
~~- Number of bits for Pilot bits (SF=128, 256)~~	~~Reference to TS34.108 clause 6.10 Parameter SetNot Present~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Active~~Activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	Infinity~~62~~
- TGSN	4
- TGL1	7
- TGL2	Not Present
- TGD	0
- TGPL1	3
- TGPL2	Not Present
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL or DL only depending on UE capability~~UL and DL~~
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2 or Not present depending on UE capability
- Downlink frame type	B
- 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~~Not Present
Downlink information for each radio link	Not Present

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 Mode	Periodical Reporting
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	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 TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	FALSE
- 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 monitored set on non-used frequency
- Maximum number of reported cells	2
- Measurement validity	
- UE state	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"
- Inter-frequency measurement results	
- 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
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	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)

If UE do not require compressed mode, ~~U~~use the same message sub-type found in TS34.108 clause 9~~Annex A~~, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)".

If UE requires compressed mode, use the same message sub-type found in TS34.108 clause 9, which is entitled "(Packet to CELL_FACH 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	
- Downlink DPCH info common for all RL	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present
- TX Diversity Mode	None
- SSDT information	Not Present
- Default DPCH Offset Value	Not present

Master Information Block (Step 12)

Information Element	Value/Remarks
MIB value tag	2

System Information Block type ~~11~~ 12 (Step 12)

Information Element	Value/Remarks
Measurement control system information	
- Use of HCS	Not used
- Cell_selection_and_reselection_-quality_measure	CPICH_Ec/No
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- CHOICE Inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	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	
- Cell individual offset	Not Present
- Reference time difference to cell	Not Present
- Read SFN indicator	FALSE
- CHOICE Mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to the scrambling code of cell 4
- Primary CPICH Tx power	Not Present
- TX diversity indicator	FALSE
- Cell selection and re-selection info	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	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 P5
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, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 17)

Only the message type is checked.

8.4.1.6.5 Test Requirement

If UE requires compressed mode, after step 6, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 8 the UE shall transmit MEASUREMENT REPORT message to report cell 4's RSCP value in the IE "inter-frequency cell measured results".

after step 10, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

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 of cell 4, and the "cell update cause" IE shall be set to "cell reselection".

After step 16, the UE shall transmit UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH AM RLC.

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 UTRAN instructs the UE to perform a measurement that is not supported by the UE, the UE shall:

1> retain the measurement configuration that was valid before the MEASUREMENT CONTROL message was received;

1> set the IE "RRC transaction identifier" in the MEASUREMENT CONTROL FAILURE message to the value of "RRC transaction identifier" in the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry.

1> set the cause value in IE "failure cause" to "unsupported measurement";

1> submit the MEASUREMENT CONTROL FAILURE message to lower layers for transmission on the DCCH using AM RLC;

1> continue with any ongoing processes and procedures as if the invalid MEASUREMENT CONTROL message has not been received;

1> and the procedure ends.

~~If the UTRAN instructs the UE to perform a measurement that is not supported by 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

1. To confirm that the UE transmits a MEASUREMENT CONTROL FAILURE message, with the value "unsupported measurement" in IE "failure cause" when the SS 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: 1 cell

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.

[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 to configure inter-RAT measurements. The UE hall transmit a MEASUREMENT CONTROL FAILURE message on the uplink DCCH using AM RLC. SS verifies that the UE continues to transmit MEASURMENT 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	→		MEASUREMENT REPORT	Contains estimated reading for UE transmitted power.
4	←		MEASUREMENT CONTROL	Inter-RAT measurements are requested in this message
5	→		MEASUREMENT CONTROL FAILURE	The value "unsupported measurement" is set in IE "failure cause".
6	→		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	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- CHOICE mode	FDD
- Measurement quantity	UE Transmitted Power
- Filter Coefficient	0
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	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
- UE Rx-Tx report entries	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	
- CHOICE inter-RAT cell removal	Remove no inter-RAT cells
- New inter-RAT cells	
- Inter-RAT cell id	1
- CHOICE *Radio Access Technology*	GSM
- Cell individual offset	0
- Cell selection and re-selection info	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
- Cells for measurement	
- Inter-RAT cell id	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	
- UTRAN estimate quantity	FALSE
- CHOICE system	GSM
- Pathloss	FALSE
- Observed time difference to GSM cell	FALSE
- GSM Carrier RSSI	TRUE
- Reporting cell status	Not Present
- CHOICE report criteria	No reporting
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 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.

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

If the MEASUREMENT CONTROL message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to TS 25.331 clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

1> set the IE "RRC transaction identifier" in the MEASUREMENT CONTROL FAILURE message to the value of "RRC transaction identifier" in the entry for the MEASUREMENT CONTROL message in the table "Rejected transactions" in the variable TRANSACTIONS; and

1> clear that entry.

1> set the IE "failure cause" to the cause value "protocol error";

1> include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;

1> submit the MEASUREMENT CONTROL FAILURE message to lower layers for transmission on the DCCH using AM RLC;

1> continue with any ongoing processes and procedures as if the invalid MEASUREMENT CONTROL message has not been received;

1> and the procedure ends.

~~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 continue its ongoing processes and procedures as if the MEASUREMENT CONTROL message has not been received.~~

Reference

3GPP TS 25.331 clauses 8.4.1.5 and 9.2

8.4.1.10.3 Test Purpose

1. To confirm that the UE continues its ongoing processes and procedures after it has received an invalid MEASUREMENT CONTROL message.

2. To confirm that the UE transmits MEASUREMENT CONTROL FAILURE message, after it has received an invalid MEASUREMENT CONTROL message.

~~To confirm that the UE continues its ongoing processes and procedures after it has received an invalid MEASUREMENT CONTROL message. To confirm that the UE transmits MEASUREMENT CONTROL FAILURE message, 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+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

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 UE to transmit MEASUREMENT RERORT message on the uplink DCCH. After the MEASUREMENT REPORT message is received, SS transmits an invalid MEASUREMENT CONTROL message again. The UE shall reply with MEASURMENT CONTROL FAILURE message as it has detected a protocol error. It shall continue to report its 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	←		MEASUREMENT CONTROL	SS transmits this message on downlink DCCH to instruct UE to start reporting the quantity "UE transmitted power".
3	→		MEASUREMENT REPORT	UE shall send this message periodically at 32 seconds interval
4	←		MEASURMENT CONTROL	See message content.
5	→		MEASUREMENT CONTROL FAILURE	UE shall continue its current measurement and reporting processes and procedures after sending this message.
6	→		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	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- Measurement quantity	UE Transmitted Power
- Filter coefficient	0
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	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)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
~~All IEs~~	~~Not Present~~
Critical extensions	'01'H

MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remark
Failure cause	Check to see if set to "protocol error"
Protocol error information	Check to see if set to "~~ASN.1 violation or encoding error~~ Message extension not comprehended "

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 "~~ASN.1 violation or encoding error~~ Message extension not comprehended ".

After step 5 the UE shall continue to send MEASUREMENT REPORT, with the measurement identity number set to 3 and "measured results" IE containing measured readings of UE Tx power, at 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

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

…

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified below.

When the UE has received from the UTRAN the configurations of several compressed mode transmission gap pattern sequences, and if several of these patterns are to be simultaneously active, the UE shall check to see if these simultaneously active transmission gap pattern sequences create transmission gaps in the same frame. An illegal overlap is created if two or more transmission gap pattern sequences create transmission gaps in the same frame, irrespective of the gaps are created in uplink or downlink.

If the parallel transmission gap pattern sequences create an illegal overlap, the UE shall:

1> delete the overlapping transmission gap pattern sequence configuration stored in the variable TGPS_IDENTITY, which is associated with the highest value of IE "TGPSI";

1> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the information elements as specified below:

2> not include the IE "RRC transaction identifier";

2> set the cause value in IE "failure cause" to value "compressed mode runtime error".

1> terminate the inter-frequency and/or inter-RAT measurements corresponding to the deleted transmission gap pattern sequence;

1> when the PHYSICAL CHANNEL RECONFIGURATION FAILURE message has been submitted to lower layers for transmission:

2> the procedure ends.

~~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, 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. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the 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

1. 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.

2. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence.

~~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 – Cell 1 and cell 4 are active.

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.

Table 8.4.1.11-1

Parameter	Unit	Cell 1	Cell 4
UTRA RF Channel Number		Ch. 1	Ch. 2
CPICH Ec	dBm/ 3.84 MHz	-60	-70

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. The UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report 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" 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. 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 inter-RAT measurement tasks associated with TGPSI=2. The UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	SS starts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. SS commands UE to report the UTRA RSSI in the UARFCN in which cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4	←		MEASUREMENT CONTROL	SS assigns inter-RAT measurements for "GSM carrier RSSI". This measurement task is associated with transmission gap pattern sequence with TGPSI=2. The IE "TGPS status flag" is set to "~~Inactive~~deactivate".
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	IE "Failure cause" shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

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 Mode	Periodical Reporting
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	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 TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	TRUE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation reporting indicator	FALSE
- 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
- 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~~Activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

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"
- Inter-frequency measurement results	
- 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
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	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
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
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 id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	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 estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- 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	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	~~inactive~~deactivate
- TGCFN	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" or "Non-speech in CS" or "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Active~~Activate
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	62
- TGSN	4
- TGL1	7
- TGL2	5
- TGD	0
- TGPL1	3
- TGPL2	5
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	B
- 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"
- Protocol error information	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 inter-RAT 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. The MEASUREMENT REPORT messages sent by the UE shall not contain CPICH RSCP readings for cell 4.

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

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

…

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified below.

When the UE has received from the UTRAN the configurations of several compressed mode transmission gap pattern sequences, and if several of these patterns are to be simultaneously active, the UE shall check to see if these simultaneously active transmission gap pattern sequences create transmission gaps in the same frame. An illegal overlap is created if two or more transmission gap pattern sequences create transmission gaps in the same frame, irrespective of the gaps are created in uplink or downlink.

If the parallel transmission gap pattern sequences create an illegal overlap, the UE shall:

1> delete the overlapping transmission gap pattern sequence configuration stored in the variable TGPS_IDENTITY, which is associated with the highest value of IE "TGPSI";

1> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the information elements as specified below:

2> not include the IE "RRC transaction identifier";

2> set the cause value in IE "failure cause" to value "compressed mode runtime error".

1> terminate the inter-frequency and/or inter-RAT measurements corresponding to the deleted transmission gap pattern sequence;

1> when the PHYSICAL CHANNEL RECONFIGURATION FAILURE message has been submitted to lower layers for transmission:

2> the procedure ends.

~~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, 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.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

1. 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.
2. To confirm that the UE terminate any measurements corresponding to the deleted transmission gap pattern sequence.

~~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 measurements corresponding to the deleted transmission gap pattern sequence.~~

8.4.1.12.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 and cell 4 are active.

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. The UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report 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" 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. 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 inter-RAT measurement tasks associated with TGPSI=2. The UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	SS starts 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 cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4	←		MEASUREMENT CONTROL	SS assigns inter-RAT measurements for "GSM carrier RSSI". This measurement task is associated with transmission gap pattern sequence with TGPSI=2 The IE "TGPS status flag" is set to "~~Inactive~~deactivate".
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	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	IE "Failure cause" shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

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 Mode	Periodical Reporting
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	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 TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	TRUE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- 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
- 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~~Activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

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"
- Inter-frequency measurement results	
- 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
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	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
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
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 id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	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 estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- 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	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	~~inactive~~deactivate
- TGCFN	Not present

TRANSPORT CHANNEL RECONFIGURATION (Step 5)

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" or "Non-speech in CS" or "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Active~~Activate
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	62
- TGSN	4
- TGL1	7
- TGL2	5
- TGD	0
- TGPL1	3
- TGPL2	5
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	B
- 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"
- Protocol error information	Checked to see if it is absent
- Deleted TGPSI	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 inter-RAT 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. The, MEASUREMENT REPORT messages sent by the UE shall not contain CPICH RSCP readings for cell 4.

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

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is included, the UE shall for each transmission gap pattern sequence perform the following consistency checks:

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires UL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'DL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE, according to its measurement capabilities, and for the measurement purpose indicated by IE "TGMP", requires DL compressed mode for measurements on any of the cells to be measured according to UE variable CELL_INFO_LIST, and CHOICE 'UL/DL mode' indicates 'UL only':

2> set the variable INVALID_CONFIGURATION to TRUE.

1> if UE already has an active transmission gap pattern sequence that, according to IE "TGMP", has the same measurement purpose, and both patterns will be active after the new configuration has been taken into use:

2> set the variable INVALID_CONFIGURATION to TRUE.

If variable INVALID_CONFIGURATION has value FALSE after UE has performed the checks above, the UE shall:

…

1> monitor if the parallel transmission gap pattern sequences create an illegal overlap, and in case of overlap, take actions as specified below.

When the UE has received from the UTRAN the configurations of several compressed mode transmission gap pattern sequences, and if several of these patterns are to be simultaneously active, the UE shall check to see if these simultaneously active transmission gap pattern sequences create transmission gaps in the same frame. An illegal overlap is created if two or more transmission gap pattern sequences create transmission gaps in the same frame, irrespective of the gaps are created in uplink or downlink.

If the parallel transmission gap pattern sequences create an illegal overlap, the UE shall:

1> delete the overlapping transmission gap pattern sequence configuration stored in the variable TGPS_IDENTITY, which is associated with the highest value of IE "TGPSI";

1> transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the information elements as specified below:

2> not include the IE "RRC transaction identifier";

2> set the cause value in IE "failure cause" to value "compressed mode runtime error".

1> terminate the inter-frequency and/or inter-RAT measurements corresponding to the deleted transmission gap pattern sequence;

1> when the PHYSICAL CHANNEL RECONFIGURATION FAILURE message has been submitted to lower layers for transmission:

2> the procedure ends.

~~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, 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. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the 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

1. 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.

2. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence.

~~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 – Cell 1 and cell 4 are active.

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.The UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report 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" 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 PHYSICAL CHANNEL RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. 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 inter-RAT measurement tasks associated with TGPSI=2. The UE shall continue to send MEASUREMENT REPORT messages to report the UTRA RSSI in the UARFCN in which cell 4 resides.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	SS starts inter-frequency measurements for cell 4's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1. SS commands UE to report the UTRA RSSI in the UARFCN in which cell 4 resides.
3	→		MEASUREMENT REPORT	UE reports UTRA RSSI for the UARFCN of cell 4 periodically.
4	←		MEASUREMENT CONTROL	SS assigns inter-frequency measurements for "GSM carrier RSSI". This measurement task is associated with transmission gap pattern sequence with TGPSI=2. The IE "TGPS status flag" is set to "~~Inactive~~deactivate".
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	IE "Failure cause" shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

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 Mode	Periodical Reporting
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	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 TX power	Not Present
- TX Diversity Indicator	FALSE
- Cells for measurement	
- Inter-frequency cell id	4
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	TRUE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- 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
- 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~~Activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256

MEASUREMENT REPORT (Step 3 and Step 8)

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"
- Inter-frequency measurement results	
- 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
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- Cell synchronisation information	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	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
- Periodic Reporting / Event Trigger Reporting Mode	Periodical reporting
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 id	7
CHOISE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	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 estimate	Not present
CHOISE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	not required
- inter-RAT reporting quantity	
CHOISE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
- 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	
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence	
- TGPSI	2
- TGPS status flag	~~inactive~~deactivate
- TGCFN	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" or "Non-speech in CS" or "Speech in CS" found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Active~~Activate
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	4
- TGL1	7
- TGL2	5
- TGD	0
- TGPL1	3
- TGPL2	5
- RPP	Mode 0
- ITP	Mode 0
- CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	B
- 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"
- Protocol error information	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 inter-RAT 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. The MEASUREMENT REPORT messages sent by the UE shall not contain the CPICH RSCP readings for cell 4.

8.4.1.15 Measurement Control and Report: Configuration Incomplete

8.4.1.15.1 Definition

8.4.1.15.2 Conformance requirement

If IE "Traffic volume measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Traffic volume measurement quantity" or IE "Traffic volume reporting quantity" is not received, the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

…

If IE "Measurement Reporting Mode" is not received by the UE in MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

…

If IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-frequency measurement quantity", IE "Inter-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE;

…

If IE "Intra-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Intra-frequency measurement quantity", IE "Intra-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

…

If IE "Quality measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Quality reporting quantity" is not received, the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

…

If IE "UE internal measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "UE internal measurement quantity" or IE "UE internal reporting quantity" is not received, the UE shall:

1> clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;

1> set the variable CONFIGURATION_INCOMPLETE to TRUE.

…

If the variable CONFIGURATION_INCOMPLETE is set to TRUE, the UE shall:

1> retain the measurement configuration that was valid before the MEASUREMENT CONTROL message was received;

1> set the IE "RRC transaction identifier" in the MEASUREMENT CONTROL FAILURE message to the value of "RRC transaction identifier" in the entry for the MEASUREMENT CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS and clear that entry;

1> clear the variable CONFIGURATION_INCOMPLETE;

1> set the cause value in IE "failure cause" to "Configuration incomplete";

1> submit the MEASUREMENT CONTROL FAILURE message to lower layers for transmission on the DCCH using AM RLC;

1> continue with any ongoing processes and procedures as if the invalid MEASUREMENT CONTROL message has not been received;

1> and the procedure ends.

~~When the UE received a MEASUREMENT CONTROL message which results in an "configuration incomplete" condition to be detected, the UE shall retain the measurement configuration that was valid before the MEASUREMENT CONTROL message was received. It shall also send MEASUREMENT CONTROL FAILURE, with the IE "RRC transaction identifier" set to the value of the same IE in the received MEASUREMENT CONTROL message, and also the "failure cause" IE set to "incomplete configuration".~~

Reference

3GPP TS 25.331 clause 8.4.1.4a, 8.6.7.10, 8.6.7.13, 8.6.7.14, 8.6.7.16, 8.6.7.17, 8.6.7.18

8.4.1.15.3 Test Purpose

1. To confirm that the UE sends a MEASUREMENT CONTROL FAILURE message, after receiving a MEASUREMENT CONTROL message with IE "Measurement command" set to "Setup" and the following contents:

   - "CHOICE measurement type" IE is set to "Intra-frequency measurement" and "Intra-frequency measurement quantity" is omitted; or

   - "CHOICE measurement type" IE is set to "Inter-frequency measurement" and "Inter-frequency reporting quantity" is omitted; or

   - "Reporting mode" IE is omitted. or

   - "CHOICE measurement type" IE is set to "Quality measurement" and IE "Quality reporting quantity" is omitted or

   - "CHOICE measurement type" IE is set to "UE internal measurement" and IE "UE internal measurement quantity" is omitted or

   - "CHOICE measurement type" IE is set to "UE internal measurement" and IE "UE internal reporting quantity" is omitted or

   - "CHOICE measurement type" IE is set to "Traffic volume measurement" and IE "Traffic volume measurement quantity" is omitted or

   - "CHOICE measurement type" IE is set to "Traffic volume measurement" and IE "Traffic volume reporting quantity" is omitted

2. To confirm that the UE set the "failure cause" IE to value "incomplete configuration" in the uplink MEASUREMENT CONTROL FAILURE message.

8.4.1.15.4 Method of test

Initial Condition

System Simulator: 1 cell.

UE: CS-DCCH+DTCH_DCH (State 6-~~5~~9) or PS-DCCH+DTCH_DCH (State 6-~~7~~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

The UE is initially brought to CELL_DCH. SS then send a MEASUREMENT CONTROL message to UE. The UE shall perform periodical traffic volume measurement according to this message and then transmit MEASUREMENT REPORT message back to SS.

SS transmits a MEASUREMENT CONTROL message to the UE, commanding it to start an intra-frequency measurement and reporting task. However, IE "Intra-frequency measurement quantity" is absent in the message. The UE shall not establish the intra-frequency measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends the MEASUREMENT CONTROL message once more. In this message, SS commands the establishment of an inter-frequency measurement and reporting task, but IE "Inter-frequency reporting quantity" is omitted in this message. The UE shall not establish the intra-frequency measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends a third MEASUREMENT CONTROL message. In this message, SS commands the establishment of an intra-frequency measurement and reporting task, but IE "Measurement reporting mode" is omitted in this message. The UE shall not establish the intra-frequency measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends a fourth MEASUREMENT CONTROL message. In this message, SS commands the establishment of a quality measurement and reporting task, but IE "Quality reporting quantity" is omitted in this message. The UE shall not establish the quality measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends a fifth MEASUREMENT CONTROL message. In this message, SS commands the establishment of UE internal measurement and reporting task, but IE "UE internal measurement quantity" is omitted in this message. The UE shall not establish the UE internal measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends a sixth MEASUREMENT CONTROL message. In this message, SS commands the establishment of UE internal measurement and reporting task, but IE "UE internal reporting quantity" is omitted in this message. The UE shall not establish the UE internal measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

Next, SS sends a seventh MEASUREMENT CONTROL message. In this message, SS commands the establishment of a traffic volume measurement and reporting task, but IE "Traffic volume measurement quantity" is omitted in this message. The UE shall not establish the traffic volume measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected.

In the final sequence, SS sends an eight MEASUREMENT CONTROL message. In this message, SS commands the establishment of a traffic volume measurement and reporting task, but IE "Traffic volume reporting quantity" is omitted in this message. The UE shall not establish the traffic volume measurement. It shall send a MEASUREMENT CONTROL FAILURE message to report that a "configuration incomplete" error has been detected. UE shall continue its traffic volume measurement and send MEASUREMENT REPORT messages back to SS periodically. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
1a	←		MEASUREMENT CONTROL	SS requests UE to perform periodical traffic volume measurement.
1b	→		MEASUREMENT REPORT	
2	←		MEASUREMENT CONTROL	SS commands the start of an intra-frequency measurement and reporting task. IE "Intra-frequency measurement quantity" is absent.
3	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
4	←		MEASUREMENT CONTROL	SS commands the start of an inter-frequency measurement and reporting task. IE "Inter-frequency reporting quantity" is absent.
5	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
6	←		MEASUREMENT CONTROL	SS commands the start of an inter-frequency measurement and reporting task. IE "Measurement reporting mode" is absent.
7	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
8	←		MEASUREMENT CONTROL	SS commands the start of a Quality measurement and reporting task. IE "Quality reporting quantity" is absent.
9	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
10	←		MEASUREMENT CONTROL	SS commands the start of an UE internal measurement and reporting task. IE "UE internal measurement quantity" is absent.
11	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
12	←		MEASUREMENT CONTROL	SS commands the start of an UE internal measurement and reporting task. IE "UE internal reporting quantity" is absent.
13	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
14	←		MEASUREMENT CONTROL	SS commands the start of a Traffic volume measurement and reporting task. IE "Traffic volume measurement quantity" is absent.
15	→		MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"

16	←	MEASUREMENT CONTROL	SS commands the start of a Traffic volume measurement and reporting task. IE "Traffic volume reporting quantity" is absent.
17	→	MEASUREMENT CONTROL FAILURE	UE reports the occurrence of "incomplete configuration"
18	←	MEASUREMENT REPORT	
19	←→	CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 1a)

Use the MEASUREMENT CONTROL message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Modify
Measurement reporting mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting / Event Trigger Reporting Mode	Periodical Reporting
Additional measurement list	Not Present
CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	
- Uplink transport channel type	DCH
- UL Target Transport Channel ID	5
- Traffic volume measurement quantity	
- Measurement quantity	RLC Buffer Payload
- Time Interval to take an average or a variance	Not Present
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	True
- Average of RLC Buffer Payload for each RB	False
- Variance of RLC Buffer Payload for each RB	False
- Measurement validity	
- UE state	All states
- CHOICE Reporting criteria	Periodical Reporting Criteria
- Amount of reporting	Infinity
- Reporting interval	8000
DPCH compressed mode status	Not Present

MEASUREMENT REPORT (Step 1b and 18)

Check to see if the same message type found in [9] TS 34.108 Clause 9 is received, with the following exceptions:

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	3
- 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	4
- 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
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 2)

Information Element	Value/Remark

Measurement Identity	1
RRC transaction Identifier	Arbitrarily selected between 0 and 3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting/Event Trigger Reporting Mode	Periodical reporting
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 cell	Not Present
- Cell for measurement	
- Intra-frequency cell id	Set to id of cell 1
- Intra-frequency measurement quantity	Not Present
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN onserved time difference reporting indicator	No report
- Cell synchronization information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CHOICE mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN onserved time difference reporting indicator	No report
- Cell synchronization information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CHOICE mode	FDD
- 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 set
- Maximum number of reported cells	1
- Measurement validity	CELL_DCH
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE (Step 3)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 2
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 4) (Note 1)

Information Element	Value/Remark
Measurement Identity	2
RRC transaction Identifier	Arbitrarily selected between 0 and 3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Periodical Reporting/Event Trigger Reporting Mode	Periodical reporting
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 cell	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- CHOICE Mode	FDD
- UARFCN uplink (Nu)	Set to the same UARFCN as cell 4 in clause 6.1 of TS 34.108
- UARFCN downlink (Nu)	Set to the same UARFCN as cell 4 in clause 6.1 of TS 34.108
- 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
- Cell for measurement	
- Inter-frequency cell id	Set to id of cell 4
- Inter-frequency measurement quantity	
- CHOICE rerporting criteria	Inter-frequency reporting criteria
- Filter coefficients	0
- CHOICE mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	Not Present
- Reporting cell status	
- CHOICE reported cell	Report cells within monitored set on non-used frequency
- Maximum number of reported cells	1
- Measurement validity	CELL_DCH
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
- Inter-frequency set update	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 IE in the MEASUREMENT CONTROL message sent in Step 4
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 6)

Information Element	Value/Remark
Measurement Identity	3
RRC transaction Identifier	Arbitrarily selected between 0 and 3
Measurement Command	Setup
Measurement Reporting Mode	Not Present
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 cell	Not Present
- Cell for measurement	
- Intra-frequency cell id	Set to id of cell 1
- Intra-frequency measurement quantity	
- Filter coefficient	0
- CHOICE mode	FDD
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN onserved time difference reporting indicator	No report
- Cell synchronization information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CHOICE mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN onserved time difference reporting indicator	No report
- Cell synchronization information reporting indicator	No report
- Cell identity reporting indicator	FALSE
- CHOICE mode	FDD
- 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 set
- Maximum number of reported cells	1
- Measurement validity	CELL_DCH
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE (Step 7)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 6
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement identity	16
Measurement command	Setup
- CHOICE measurement type	Quality measurement
- Quality reporting quantity	Not present
- Reporting criteria	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	64 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 CONTROL FAILURE (Step 9)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 8
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 10)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	Not present
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	1000 msec
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT CONTROL FAILURE (Step 11)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 10
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 12)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- CHOICE mode	FDD
- Measurement quantity	UE Transmitted Power
- Filter Coefficient	0
- UE internal reporting quantity	Not present
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	1000 msec
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
DPCH compressed mode status	Not Present

MEASUREMENT CONTROL FAILURE (Step 13)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 12
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	Not present
- Traffic volume reporting quantity	
- 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 CONTROL FAILURE (Step 15)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 14
Failure cause	Check to see if set to "incomplete configuration"

MEASUREMENT CONTROL (Step 16)

Information Element	Value/Remark
Measurement Identity	1
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	Not Present
- Traffic volume measurement quantity	RLC Buffer Payload
- Traffic volume reporting quantity	Not present
- 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 CONTROL FAILURE (Step 17)

Information Element	Value/Remark
RRC transaction identifier	Check if it is set to the same value of the same IE in the MEASUREMENT CONTROL message sent in Step 16
Failure cause	Check to see if set to "incomplete configuration"

NOTE: For the MEASUREMENT CONTROL message in step 4, cell 4 is signalled to be added as a new cell into the UE's inter-frequency cell list. However, SS does not need to transmit cell 4 in the downlink, as the UE is not expected to perform measurement and reporting for this cell.

8.4.1.15.5 Test Requirement

After step 1a, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

After step 2, 4, 6, 8, 10, 12, 14 and step 16, the UE shall transmit MEASUREMENT CONTROL FAILURE message, stating the IE "failure cause" as "incomplete configuration". The UE shall not transmit any MEASUREMENT REPORT messages during the execution of this test case.

After step 17, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH, reporting the RLC buffer payload of each RBs mapped on DCH at every 8s interval.

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

Upon transition from CELL_DCH to CELL_FACH or CELL_PCH or URA_PCH state, the UE shall:

1> retrieve each set of measurement control information of measurement type "traffic volume" stored in the variable MEASUREMENT_IDENTITY; and

2> if the optional IE "measurement validity" for this measurement has not been included:

3> delete the measurement associated with the variable MEASUREMENT_IDENTITY.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

3> stop measurement reporting;

3> store the measurement associated with the variable MEASUREMENT_IDENTITY to be used after the next transition to CELL_DCH state.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

3> continue measurement reporting.

2> if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

3> resume this measurement and associated reporting.

1> if no traffic volume type measurements set up or modified through a MEASUREMENT CONTROL message and valid in CELL_FACH or CELL_PCH or URA_PCH states are stored in the variable MEASUREMENT_IDENTITY with the same identity as the one indicated in the IE "Traffic volume measurement system information":

...

In CELL_PCH or URA_PCH state, the UE shall:

1> first perform the cell update procedure, using the cause "uplink data transmission", in order to transit to CELL_FACH state; and then

1> transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are fulfilled for any ongoing traffic volume measurement or UE positioning measurement which is being performed in the UE.

~~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

1. 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, 3GPP TS 25.331 clause 8.4.1.6.6

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 ~~repotting~~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	←		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	→		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	→		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	
5a	→		UTRAN MOBILITY INFORMATION 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
- Cell_selection_and_reselection_quality	CPICH RSCP
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-RAT measurement system information	Not Present
- Traffic volume measurement system information	
- Traffic volume measurement ID	1
- Traffic volume measurement object list	
- UL transport channel identity	RACH
- UL transport channel identity	DCH : 5
- Traffic volume measurement quantity	Variance of RLC Buffer Payload
- Time Interval to take an average	200 msec
- Traffic volume reporting quantity	
- RB buffer payload	False
- RB buffer payload average	False
- RB buffer payload variance	True
- Traffic volume measurement reporting criteria	Not Present
- Measurement validity	All States
- 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
- 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
UTRAN DRX cycle length coefficient	3

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"

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 5a)

Only the message type is checked.

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	1
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	4
- 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	20
- 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
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

8.4.1.20.5 Test Requirement

The UE shall send CELL UPDATE message with cause "Uplink data transfer" in step 4, UTRAN MOBILITY INFORMATION CONFIRM message in step 5a and MEASUREMENT REPORT message in step 6.

8.4.1.21 Measurement Control and Report: Traffic volume measurement in URA_PCH state

8.4.1.21.1 Definition

8.4.1.21.2 Conformance requirement

Upon transition from CELL_DCH to CELL_FACH or CELL_PCH or URA_PCH state, the UE shall:

1> retrieve each set of measurement control information of measurement type "traffic volume" stored in the variable MEASUREMENT_IDENTITY; and

2> if the optional IE "measurement validity" for this measurement has not been included:

3> delete the measurement associated with the variable MEASUREMENT_IDENTITY.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

3> stop measurement reporting;

3> store the measurement associated with the variable MEASUREMENT_IDENTITY to be used after the next transition to CELL_DCH state.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

3> continue measurement reporting.

2> if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

3> resume this measurement and associated reporting.

1> if no traffic volume type measurements set up or modified through a MEASUREMENT CONTROL message and valid in CELL_FACH or CELL_PCH or URA_PCH states are stored in the variable MEASUREMENT_IDENTITY with the same identity as the one indicated in the IE "Traffic volume measurement system information":

...

In CELL_PCH or URA_PCH state, the UE shall:

1> first perform the cell update procedure, using the cause "uplink data transmission", in order to transit to CELL_FACH state; and then

1> transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are fulfilled for any ongoing traffic volume measurement or UE positioning measurement which is being performed in the UE.

~~In URA_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~~

8.4.1.21.3 Test Purpose

1. To confirm that in URA_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.

~~To confirm that in URA_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, 3GPP TS 25.331 clause 8.4.1.6.6

8.4.1.21.4 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

Initially the UE is in CELL_DCH state. MEASUREMENT CONTROL message is sent to UE to assign traffic volume measurement and reporting to be performed in all states except CELL_DCH. The UE is requested to perform periodic reporting of measurements with IE "Reporting amount" is set to 1. RADIO BEARER RECONFIGURATION procedure is used to take UE from CELL_DCH state to URA_PCH state. While entering in URA_PCH state from CELL_DCH state UE should start traffic volume measurement as assigned by MEASUREMENT CONTROL message. 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. The UE shall not send second MEASUREMENT REPORT message after reporting interval, because IE "Reporting amount" in MEASUREMENT CONTROL message is set to 1.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	IE "Reporting amount" is set to 1.
2	←		RADIO BEARER RECONFIGURATION	IE "RRC State Indicator" is set to "URA_PCH"
3	→		RADIO BEARER RECONFIGURATION COMPLETE	While entering in URA_PCH state from CELL_DCH state UE shall start traffic volume measurement as assigned in System Information (Step 1).
4	→		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	
5a	→		UTRAN MOBILITY INFORMATION CONFIRM	
6	→		MEASUREMENT REPORT	
7				SS waits for 8 Sec to confirm that UE does not send second MEASUREMENT REPORT message

Specific Message Content

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	15
Measurement Command	Setup
- CHOICE measurement type	Traffic Volume Measurement
- Traffic volume measurement object list	RACH
- Traffic volume measurement quantity	Variance of RLC Buffer Payload
- Time Interval to take an average	200 msec
- Traffic volume reporting quantity	
- RB buffer payload	False
- RB buffer payload average	False
- RB buffer payload variance	True
- Measurement validity	All but CELL_DCH State
- Report criteria	Periodical Reporting Criteria
- Reporting amount	1
- 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

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	URA_PCH
UTRAN DRX cycle length coefficient	3

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"

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Annex A, with the following exceptions.

Information Element	Value/Remarks
New C-RNTI	'1010 1010 1010 1010'

UTRAN MOBILITY INFORMATION CONFIRM (Step 5a)

Only the message type is checked.

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	15
Measured Results	
- CHOICE measurement	Traffic volume measured results list
- Traffic volume measurement results	
- RB identity	1
- 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	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	4
- 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	20
- 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
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

8.4.1.21.5 Test Requirement

The UE shall send CELL UPDATE message with cause "Uplink data transfer" in step 4, UTRAN MOBILITY INFORMATION CONFIRM message in step 5a and MEASUREMENT REPORT message in step 6. The UE shall not send MEASUREMENT REPORT message in step 7.

8.4.1.22 Measurement Control and Report: Quality measurements

8.4.1.22.1 Definition

8.4.1.22.2 Conformance requirement

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in TS 25.331 subclause 8.6 unless otherwise specified below.

The UE shall:

1> read the IE "Measurement command";

1> if the IE "Measurement command" has the value "setup":

2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":

…

2> for measurement type "UE positioning measurement":

…

2> for any other measurement type:

3> if the measurement is valid in the current RRC state of the UE:

4> begin measurements according to the stored control information for this measurement identity.

~~In CELL_DCH state, the UE shall send MEASUREMENT REPORT message when reporting criteria is fulfilled for any ongoing quality measurements.~~

Reference

3GPP TS 25.331 clause 8.4.1.3

8.4.1.22.3 Test Purpose

1. To confirm that the UE performs quality measurement as specified in MEASUREMENT CONTROL message received. In CELL_DCH state, the UE shall send MEASUREMENT REPORT message when the reporting criteria is fulfilled for any ongoing quality measurement.

8.4.1.22.4 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) ~~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 in CELL_DCH state. MEASUREMENT CONTROL message is sent to UE to assign quality measurement and reporting. As assigned in MEASUREMENT CONTROL message, the UE shall periodically send MEASUREMENT REPORT message reporting BLER of downlink transport channel(s). SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	The UE is requested to perform "Quality measurements"
2	→		MEASUREMENT REPORT	
3	→		MEASUREMENT REPORT	UE shall send second MEASUREMENT REPORT message after 64 seconds.
4	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement identity	16
Measurement command	Setup
- CHOICE measurement type	Quality measurement
- Quality reporting quantity	
- DL transport channel BLER	True
- Transport channel ID list	Not present
- Mode specific Info	fdd : Null
- Reporting criteria	Periodical reporting criteria
- Reporting amount	Infinity
- Reporting interval	64 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 2,3)

Information Element	Value/Remarks
Measurement identity	16
Measured Results	
- CHOICE measurement	Quality measurement
- BLER measurement results list	
- Transport channel identity	10
- DL transport channel BLER	Check to see if this IE is present
- Mode specific info	fdd: Null
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

8.4.1.22.5 Test Requirement

In step 2 and 3, the UE shall send MEASUREMENT REPORT message to report BLER for downlink DCH transport channel.

8.4.1.24 Measurement Control and Report: Inter-frequency measurement for event 2A

8.4.1.24.1 Definition

8.4.1.24.2 Conformance requirement

When event 2a is configured in the UE within a measurement, the UE shall:

1> when the measurement is initiated or resumed:

2> store the used frequency in the variable BEST_FREQUENCY_2A_EVENT.

1> if equation 1 below has been fulfilled for a time period indicated by "Time to trigger" for a frequency included for that event and which is not stored in the variable BEST_FREQUENCY_2A_EVENT:

2> send a measurement report with IEs set as below:

3> set in "inter-frequency measurement event results":

4> "inter-frequency event identity" to "2a"; and

4> "Frequency info" to the frequency that triggered the event; and

4> "Non frequency related measurement event results" to the "Primary CPICH info" of the best primary CPICH for FDD cells or "Primary CCPCH info" to the "Cells parameters ID" of the best primary CCPCH for TDD cells on that frequency.

3> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2;

2> update the variable BEST_FREQUENCY_2A_EVENT with that frequency.

Equation 1:

$$Q_{NotBest} \geq Q_{Best} + H_{2a} / 2$$

The variables in the formula are defined as follows:

$Q_{Not\ Best}$ is the quality estimate of a frequency not stored the "best frequency" in the variable BEST_FREQUENCY_2A_EVENT.

Q_{Best} is the quality estimate of the frequency stored in "best frequency" in the variable BEST_FREQUENCY_2A_EVENT.

H_{2a} is the hysteresis parameter for the event 2a in that measurement.

~~1.If any of the non- used frequencies quality estimate becomes better than the currently used frequency quality estimate, and event 2A has been ordered by UTRAN then this event shall trigger a report to be sent from the UE when the hysteresis and time to trigger conditions is fulfilled. The corresponding report contains (at least) the best primary CPICH on the non-used frequency that triggered the event.~~

Reference

3GPP TS 25.331 clause 14.2.1.1

8.4.1.24.3 Test Purpose

1.A To confirm that the UE sends MEASUREMENT REPORT message if event 2A is configured, and if any of the non- used frequencies quality estimate becomes better than the currently used frequency quality estimate.

1.B To confirm that the UE does not send MEASUREMENT REPORT message indicating event 2A if hysteresis condition is not fulfilled.

1.C To confirm that the UE does not send MEASUREMENT REPORT message indicating event 2A if time to trigger condition is not fulfilled.

8.4.1.24.4 Method of test

Initial Condition

System Simulator: 2 cells – The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.24-1. The table is found in "Test Procedure" clause.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) ~~CS_DCCH_DCH_Initial (State 6-1) or PS_DCCH_DCH_ Initial (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.

Test Procedure

Table 8.4.1.24-1 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", "T2", "T3", "T4" and "T5" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.24-1

Parameter	Unit	Cell 1						Cell 4					
		T0	T1	T2	T3	T4	T5	T0	T1	T2	T3	T4	T5
UTRA RF Channel Number		Ch. 1						Ch. 2					
CPICH Ec	dBm	-66	-66	-66	-66	-66	-66	-75	-60	-75	-60	-75	-60

The UE is initially in CELL_DCH state of cell 1. SS commands the UE to perform measurements of transmitted power using MEASUREMENT CONTROL message. This measurement is setup to confirm that while sending MEASUREMENT REPORT message, the UE sets IE "Additional measured results" correctly. SS then performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. SS then commands the UE to perform Inter-frequency measurements and report event 2A by sending MEASUREMENT CONTROL message. In MEASUREMENT CONTROL message, IE "Hysteresis" is set to 10 dB and IE "Additional measurement list" is set to id of "UE Internal measurements" configured earlier. SS then configures itself according to the values in columns "T1" shown above. Even though quality estimate for Cell 4 has become better than that of Cell 1, event 2A will not be triggered since hysteresis condition is not fulfilled. SS then configures itself according to the values in columns "T2" shown above.

SS sends MEASUREMENT CONTROL message to modify parameter "Hysteresis" of Inter-frequency measurements to 1 dB. SS then raises power level of Cell 4 according to columns "T3" for short duration (less than 5 seconds), and again configures itself according to columns "T4" shown above. The UE will not send MEASUREMENT REPORT message because time to trigger condition is not fulfilled. SS then configures itself according to the values in columns "T5" shown above. The UE sends MEASUREMENT REPORT message reporting even 2A as well as measurement of transmitted power.

Important Note: Duration between time instant "T3" and "T4" (between steps 9 and 10 of expected sequence) must be less than 5 seconds. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	To setup UE Internal measurement.
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2A.
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.24-1.
6				Check for 10 seconds, the UE shall not send MEASUREMENT REPORT message, as hysteresis condition is not fulfilled.
7				SS re-adjusts the downlink transmission power settings according to columns "T2" in table 8.4.1.24-1.
8	←		MEASUREMENT CONTROL	Modify hysteresis parameter for event 2A.
9				SS re-adjusts the downlink transmission power settings according to columns "T3" in table 8.4.1.24-1.
10				SS re-adjusts the downlink transmission power settings according to columns "T4" in table 8.4.1.24-1. This step should be completed within 5 seconds after completing step 9.
11				Check for 10 seconds, the UE shall not send MEASUREMENT REPORT message, as time to trigger condition is not fulfilled.
12				SS re-adjusts the downlink transmission power settings according to columns "T5" in table 8.4.1.24-1.
13	→		MEASUREMENT REPORT	This message should come at least 5 seconds later after changing power setting of Cell 4.
14	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement identity	1
Measurement command	Setup
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- Measurement quantity	UE transmitted power
- Filter Coefficient	4
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- CHOICE mode	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE report criteria	No reporting
Measurement reporting mode	Not present
Additional measurements list	Not present
DPCH compressed mode status	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS status flag	~~Active~~Activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- CHOICE UL/DL mode	DL
- Downlink compressed mode method	SF/2
- Downlink frame type	A
- 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 CONTROL (Step 4)

Information Element	Value/Remark
Measurement identity	2
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Id of Cell 4
- Frequency Information	Frequency of Cell 4
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code of Cell 4
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	0
- Frequency quality estimate quantity	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRAN carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Measurement validity	CELL_DCH state
- Inter-frequency SET UPDATE	
- UE autonomous update mode	~~Not present~~On with no reporting
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2A
- Used frequency threshold	-72 dBm
- Used frequency W	0
- Hysteresis Inter-frequency	10 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non-used frequency parameter list	
- Non-used frequency threshold	-72 dBm
- Non-used frequency W	0
Measurement reporting mode	
- Measurement reporting transfer mode	Acknowledged mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	
- Measurement identity	1
DPCH compressed mode status info	Not present

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement identity	2
Measurement command	Modify
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	Not present
- Cell for measurement	Not present
- Intra-frequency measurement quantity	Not present
- Inter-frequency reporting quantity	Not present
- Measurement validity	Not present
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2A
- Used frequency threshold	-72 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non-used frequency parameter list	
- Non-used frequency threshold	-72 dBm
- Non-used frequency W	0
Measurement reporting mode	Not present
Additional measurement list	Not present
DPCH compressed mode status info	Not present

MEASUREMENT REPORT (Step 13)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 2
Measured results	Check to see if it is absent
Measured results on RACH	Check to see if it is absent
Additional measured results	
- Measured results	UE internal measured results
- UE transmitted power	Check to see if it is present
- UE RX TX report entry list	Check to see if it is absent
Event results	Inter frequency event results,
- Event ID	2A
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

8.4.1.24.5 Test Requirement

1.A In step 13 the UE shall send MEASUREMENT REPORT message indicating event 2A. IE 'Cell measurement event results' in MEASUREMENT REPORT message shall contain frequency information and primary scrambling code of Cell 4.

1.B In step 6, the UE shall not send MEASUREMENT REPORT message.

1.C In step 11, the UE shall not send MEASUREMENT REPORT message.

8.4.1.25 Measurement Control and Report: Inter-frequency measurement for events 2B and 2E

8.4.1.25.1 Definition

8.4.1.25.2 Conformance requirement

When event 2b is configured in the UE within a measurement, the UE shall:

1> if equations 1 and 2 below have been fulfilled for a time period indicated by "Time to Trigger" from the same instant, respectively for one or several non-used frequencies included for that event and for the used frequency:

2> if any of those non-used frequency is not stored in the variable TRIGGERED_2B_EVENT:

3> store the non-used frequencies that triggered the event and that were not previously stored in the variable TRIGGERED_2B_EVENT into that variable;

3> send a measurement report with IEs set as below:

4> set in "inter-frequency measurement event results":

5> "inter-frequency event identity" to "2b"; and

5> for each non-used frequency that triggered the event, beginning with the best frequency:

6> "Frequency info" to that non-used frequency; and

6> "Non frequency related measurement event results" to the "Primary CPICH info" of the best primary CPICH for FDD cells or "Primary CCPCH info" to the "Cell parameters ID" of the best primary CCPCH for TDD cells on that non-used frequency.

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

1> if equation 3 below is fulfilled for a non-used frequency stored in the variable TRIGGERED_2B_EVENT:

2> remove that non-used frequency from the variable TRIGGERED_2B_EVENT.

1> if equation 4 below is fulfilled for the used frequency:

2> clear the variable TRIGGERED_2B_EVENT.

Triggering conditions:

Equation 1:

$$Q_{Non\ used} \geq T_{Non\ used\ 2b} + H_{2b} / 2$$

The variables in the formula are defined as follows:

$Q_{Non\ used}$ is the quality estimate of a non-used frequency that becomes better than an absolute threshold.

$T_{Non\ used\ 2b}$ is the absolute threshold that applies for this non-used frequency in that measurement.

H_{2b} is the hysteresis parameter for the event 2b.

Equation 2:

$$Q_{Used} \leq T_{Used\ 2b} - H_{2b} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2b}$ is the absolute threshold that applies for the used frequency in that measurement.

H_{2b} is the hysteresis parameter for the event 2b.

Leaving triggered state condition:

Equation 3:

$$Q_{Non\ used} < T_{Non\ used\ 2b} - H_{2b} / 2$$

The variables in the formula are defined as follows:

$Q_{Non\ used}$ is the quality estimate of a non-used frequency that is stored in the variable TRIGGERED_2B_EVENT.

$T_{Non\ used\ 2b}$ is the absolute threshold that applies for this non-used frequency in that measurement.

H_{2b} is the hysteresis parameter for the event 2b.

Equation 4:

$$Q_{Used} > T_{Used\ 2b} + H_{2b} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2b}$ is the absolute threshold that applies for the used frequency in that measurement.

H_{2b} is the hysteresis parameter for the event 2b.

…

When event 2e is configured in the UE within a measurement, the UE shall:

1> if equation 1 below has been fulfilled for one or several non-used frequencies included for that event during the time "Time to trigger":

2> if any of those non-used frequencies is not stored in the variable TRIGGERED_2E_EVENT:

3> store the non-used frequencies that triggered the event and that were not previously stored in the variable TRIGGERED_2E_EVENT into that variable;

3> send a measurement report with IEs set as below:

4> set in "inter-frequency measurement event results":

5> "inter-frequency event identity" to "2e"; and

5> for each non-used frequency that triggered the event, beginning with the best frequency:

6> "Frequency info" to that non-used frequency; and

6> "Non frequency related measurement event results" to the "Primary CPICH info" of the best primary CPICH for FDD cells or "Primary CCPCH info" to the "Cell parameters ID" of the best primary CCPCH for TDD cells on that non-used frequency.

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

1> if equation 2 below is fulfilled for a non-used frequency stored in the variable TRIGGERED_2E_EVENT:

2> remove that non-used frequency from the variable TRIGGERED_2E_EVENT.

Triggering condition:

Equation 1:

$$Q_{Non\ used} \leq T_{Non\ used\ 2e} - H_{2e} / 2$$

The variables in the formula are defined as follows:

$Q_{Non\ used}$ is the quality estimate of a non-used frequency that becomes worse than an absolute threshold.

$T_{Non\ used\ 2e}$ is the absolute threshold that applies for that non-used frequency for that event.

H_{2e} is the hysteresis parameter for the event 2e.

Leaving triggered state condition:

Equation 2:

$$Q_{Non\ used} > T_{Non\ used\ 2e} + H_{2e} / 2$$

The variables in the formula are defined as follows:

$Q_{Non\ used}$ is the quality estimate of a non-used frequency stored in the variable TRIGGERED_2E_EVENT.

$T_{Non\ used\ 2e}$ is the absolute threshold that applies for that non-used frequency for that event.

H_{2e} is the hysteresis parameter for the event 2e.

~~1. When event 2E is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of a non-used frequency is below the value of the IE "Threshold non-used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the non-used frequency.~~

~~2. When event 2B is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the estimated quality of a non-used frequency is above the value of the IE "Threshold non-used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the non-used frequency that triggered the event.~~

Reference

3GPP TS 25.331 clause 14.2.1.2, 14.2.1.5.

8.4.1.25.3 Test Purpose

1. To confirm that the UE sends MEASUREMENT REPORT message when event 2E is configured and the estimated quality of a non-used frequency is below the value of the IE "Threshold non-used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the non-used frequency that triggered the event.

2. To confirm that the UE sends MEASUREMENT REPORT message when event 2B is configured and estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the estimated quality of a non-used frequency is above the value of the IE "Threshold non-used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the non-used frequency that triggered the event.

8.4.1.25.4 Method of test

Initial Condition

System Simulator: 2 cells – The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.24-1. The table is found in "Test Procedure" clause.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10)~~CS-DCCH_DCH_Initial (State 6-1) or PS-DCCH_DCH_ Initial (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.

Test Procedure

Table 8.4.1.25-1 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" and "T2" are to be applied subsequently. The exact instants on which these values shall be applied are described in the text in this clause.

Table 8.4.1.25-1

Parameter	Unit	Cell 1			Cell 4		
		T0	T1	T2	T0	T1	T2
UTRA RF Channel Number		Ch. 1			Ch. 2		
CPICH Ec	dBm	-60	-63	-74	-74	-60	-60

The UE is initially in CELL_DCH state of cell 1. SS commands the UE to perform Inter-frequency measurements and report event 2B and event 2E by sending MEASUREMENT CONTROL message. SS then performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. Since quality estimate of non-used frequency is below threshold, the UE sends MEASUREMENT REPORT message indicating event 2E. SS then configures itself according to the values in columns "T1" shown above. Now quality estimate of used and non-used frequency is above threshold and hence neither event 2B nor event 2E will be triggered. SS then configures itself according to the values in columns "T2" shown above. Quality estimate for used frequency is now below threshold, while that of non-used frequency is above threshold, the UE sends MEASUREMENT REPORT message to report event 2B. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2B and 2E.
2	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	→		MEASUREMENT REPORT	The UE shall report event 2E. Time duration between activation of compressed mode and reception of this message should be at least 5 seconds.
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.25-1.
6				Check for 10 seconds the UE shall not send measurement report message.
7				SS re-adjusts the downlink transmission power settings according to columns "T2" in table 8.4.1.25-1.
8	→		MEASUREMENT REPORT	The UE shall report event 2B. Time duration between changing power levels according to columns "T2" and reception of this message should be at least 5 seconds.
9	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement identity	4
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Id of Cell 4
- Frequency Information	Frequency of Cell 4
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code of Cell 4
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	4
- Frequency quality estimate quantity	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRAN Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Measurement validity	Not present
- Inter-frequency SET UPDATE	
- UE autonomous update mode	~~Not present~~On with no reporting
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2E
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Non used frequency parameter list	
- Non used frequency threshold	-15 dBm
- Non used frequency W	0
- Inter-frequency event identity	2B
- Used frequency threshold	-16 dBm
- Used frequency W	40.4
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Within monitored set non used frequency
- Maximum number of reporting cells	1
- Non used frequency parameter list	
- Non used frequency threshold	-15 dBm
- Non used frequency W	0
Measurement reporting mode	
- Measurement reporting transfer mode	Unacknowledged Mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	Not present
DPCH compressed mode status info	Not present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS status flag	Activate~~Active~~
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- CHOICE UL/DL mode	DL
- Downlink compressed mode method	SF/2
- Downlink frame type	A
- 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 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 4
Measured results	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	Inter frequency event results,
- Event ID	2E
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

MEASUREMENT REPORT (Step 8)

Information Element	Value/Remarks
Measurement identity	4
Measured results	Inter-frequency measured results
- Frequency information	Frequency of Cell 4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency 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
- Mode Specific Info	FDD
- Primary CPICH Info	
- Primary scrambling code	Primary scrambling code for cell 4
- CPICH Ec/No	Check to see if it is present
- 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
Additional measured results	Check to see if it is absent
Event results	Inter frequency event results,
- Event ID	2B
- Cell measurement event results	
- Frequency info	Frequency of Cell 4
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 4

8.4.1.25.5 Test Requirement

1. In step 4 the UE shall send MEASUREMENT REPORT message indicating event 2E. IE "Cell measurement event results" in this message shall contain frequency information and primary scrambling code of Cell 4.

2. In step 8 the UE shall send MEASUREMENT REPORT message indicating event 2B. IE "Cell measurement event results" in this message shall contain frequency information and primary scrambling code of Cell 4.

8.4.1.26 Measurement Control and Report: Inter-frequency measurement for events 2D and 2F

8.4.1.26.1 Definition

8.4.1.26.2 Conformance requirement

When event 2d is configured in the UE within a measurement, the UE shall:

1> if equation 1 below has been fulfilled for the used frequency during the time "Time to trigger":

2> if the variable TRIGGERED_2D_EVENT is set to FALSE:

3> set the variable TRIGGERED_2D_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "inter-frequency event results": "inter-frequency event identity" to "2d" and no IE "Inter-frequency cells";

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

1> if the variable TRIGGERED_2D_EVENT is set to TRUE and if equation 2 is fulfilled for the used frequency:

2> set the variable TRIGGERED_2D_EVENT to FALSE.

Triggering condition:

Equation 1:

$$Q_{Used} \leq T_{Used\ 2d} - H_{2d} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2d}$ is the absolute threshold that applies for the used frequency and event 2d.

H_{2d} is the hysteresis parameter for the event 2d.

Leaving triggered state condition:

Equation 2:

$$Q_{Used} > T_{Used\ 2d} + H_{2d} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2d}$ is the absolute threshold that applies for the used frequency and event 2d.

H_{2d} is the hysteresis parameter for the event 2d.

…

When event 2f is configured in the UE within a measurement, the UE shall:

1> if equation 1 below has been fulfilled for the used frequency during the time "Time to trigger":

2> if the variable TRIGGERED_2F_EVENT is set to FALSE:

3> set the variable TRIGGERED_2F_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "inter-frequency event results": "inter-frequency event identity" to "2f", and no IE "Inter-frequency cells";

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

1> if the variable TRIGGERED_2F_EVENT is set to TRUE and if equation 2 is fulfilled for the used frequency:

2> set the variable TRIGGERED_2F_EVENT to FALSE.

Triggering condition:

Equation 1:

$$Q_{Used} \geq T_{Used\ 2f} + H_{2f} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2f}$ is the absolute threshold that applies for the used frequency and event 2f.

H_{2f} is the hysteresis parameter for the event 2f.

Leaving triggered state condition:

Equation 2:

$$Q_{Used} < T_{Used\ 2f} - H_{2f} / 2$$

The variables in the formula are defined as follows:

Q_{Used} is the quality estimate of the used frequency.

$T_{Used\ 2f}$ is the absolute threshold that applies for the used frequency and event 2f.

H_{2f} is the hysteresis parameter for the event 2f.

~~1. When event 2F is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is above the value of the IE "Threshold used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the used frequency.~~

~~2. When event 2D is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains at least the best primary CPICH on the used frequency.~~

Reference

3GPP TS 25.331 clause 14.2.1.4, 14.2.1.6

8.4.1.26.3 Test Purpose

1. To confirm that the UE sends MEASUREMENT REPORT message when event 2F is configured and estimated quality of the currently used frequency is above the value of the IE "Threshold used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the used frequency.

2. To confirm that the UE sends MEASUREMENT REPORT message when event 2D is configured and estimated quality of the currently used frequency is below the value of the IE "Threshold used frequency". This MEASUREMENT REPORT message shall contain at least the best primary CPICH on the used frequency.

8.4.1.26.4 Method of test

Initial Condition

System Simulator: 1 cells – The initial configurations of the cell in the SS shall follow the values indicated in the column marked "T0" in table 8.4.1.26-1. The table is found in "Test Procedure" clause.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) ~~CS-DCCH_DCH_Initial (State 6-1) or PS-DCCH_DCH_ Initial (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.

Test Procedure

Table 8.4.1.26-1 illustrates the downlink power to be applied for the cell at various time instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1" is to be applied subsequently. The exact instant on which these values shall be applied is described in the text in this clause.

Table 8.4.1.26-1

Parameter	Unit	Cell 1	
		T0	T1
UTRA RF Channel Number		Ch. 1	
CPICH Ec	dBm	-60	-72

The UE is initially in CELL_DCH state of cell 1. SS performs PHYSICAL CHANNEL RECONFIGURATION procedure to activate compressed mode. SS commands the UE to perform Inter-frequency measurements and report event 2D and/or event 2F by sending MEASUREMENT CONTROL message. Since quality estimate of used frequency is above threshold, the UE sends MEASUREMENT REPORT message indicating event 2F. SS then configures itself according to the values in columns "T1" shown above. Quality estimate for used frequency is now below threshold, the UE sends MEASUREMENT REPORT message to report it. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
2	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
3	←		MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2D and 2F.
4	→		MEASUREMENT REPORT	The UE shall report event 2F
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.26-1.
6	→		MEASUREMENT REPORT	The UE shall report event 2D.
7	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

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	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- CHOICE Mode	FDD
- Power offset PPilot-DPDCH	TBD
- 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, 256)	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS status flag	Activate~~Active~~
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod 256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- CHOICE UL/DL mode	DL
- Downlink compressed mode method	SF/2
- Downlink frame type	A
- 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 CONTROL (Step 3)

Information Element	Value/Remark
Measurement identity	10
Measurement command	Setup
- CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Inter-frequency cell removal	Not present
- New inter-frequency info list	
- Inter-frequency cell id	Any valid identity other than that of Cell 1
- Frequency Information	Any valid frequency other than that of Cell 1
- Cell info	
- Cell individual offset	Not present
- Reference time difference to cell	Not present
- CHOICE mode	FDD
- Read SFN Indicator	FALSE
- Primary CPICH Info	
- Primary scrambling code	Any value of Primary scrambling code
- Primary CPICH TX power	Not present
- TX Diversity Indicator	FALSE
- Cell for measurement	Not present
- Inter-frequency measurement quantity	
- Filter Coefficient	4
- Frequency quality estimate quantity	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRAN Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	FALSE
- Pathloss reporting indicator	FALSE
- Measurement validity	CELL_DCH state
- UE autonomous update mode	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each events	
- Inter-frequency event identity	2D
- Used frequency threshold	-66 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
- Inter-frequency event identity	2F
- Used frequency threshold	-66 dBm
- Used frequency W	0
- Hysteresis Inter Frequency	1 dB
- Time to trigger	5000 mSec
- Reporting cell status	Not present
Measurement reporting mode	
- Measurement reporting transfer mode	Unacknowledged Mode RLC
- Periodic reporting / Event trigger reporting mode	Event trigger
Additional measurement list	Not present
DPCH compressed mode status info	Not present

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured results	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	Inter frequency event results,
- Event ID	2F
- Cell measurement event results	
- Frequency info	Frequency of Cell 1
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 1

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 10
Measured results	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	Inter frequency event results,
- Event ID	2D
- Cell measurement event results	
- Frequency info	Frequency of Cell 1
- Primary CPICH info	
- Primary scrambling code	Primary scrambling code of Cell 1

8.4.1.26.5 Test Requirement

1. In step 4 the UE shall send MEASUREMENT REPORT message indicating event 2F. IE 'Cell measurement event results' in this message shall contain frequency information and primary scrambling code of Cell 1.
2. In step 6 the UE shall send MEASUREMENT REPORT message indicating event 2D. IE 'Cell measurement event results' in this message shall contain frequency information and primary scrambling code of Cell 1.

8.4.1.27 Measurement Control and Report: UE internal measurement for events 6A and 6B

8.4.1.27.1 Definition

8.4.1.27.2 Conformance requirement

When event 6A is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the UE transmission power (for TDD within a single TS) becomes larger than a predefined threshold. The corresponding report identifies the threshold that was exceeded.

When event 6B is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the UE transmission power (for TDD within a single TS) becomes less than a predefined threshold. The corresponding report identifies the threshold that the UE Tx power went below.

~~When in CELL_DCH state, the UE shall start to use the new measurement and reporting parameters for UE internal measurement received in the MEASUREMENT CONTROL message. It shall transmit MEASUREMENT REPORT message, which include the measured quantity and event identity, when the reporting criteria is met.~~

Reference

3GPP TS 25.331, clauses 14.6.2.1 and 14.6.2.2.

8.4.1.27.3 Test Purpose

1. To confirm that the UE performs UE internal measurements and reporting for events 6A and 6B, when requested by the UTRAN to do so in the MEASUREMENT CONTROL message.

8.4.1.27.4 Method of test

Initial Condition

System Simulator: 1 cell, cell 1.

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

The UE is in CELL_DCH state in cell 1, 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 UE internal measurements and reporting for events 6A and 6B.

SS increases the UE Tx power above the threshold set to event 6A. After 'time to trigger' UE sends MEASUREMENT REPORT, triggered by event 6A, to SS.

SS decreases the UE Tx power below the threshold set to event 6B. After 'time to trigger' UE sends MEASUREMENT REPORT, triggered by event 6B, to SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state in cell 1.
2	←		MEASUREMENT CONTROL	SS requests for measurement and reporting of events 6A and 6B.
3				SS sets the UE transmission power above 18 dBm.
4	→		MEASUREMENT REPORT	UE shall send 6A event measurement report.
5				SS sets the UE transmission power below 15 dBm.
6	→		MEASUREMENT REPORT	UE shall send 6B event measurement report.
7	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

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 Mode	Event Trigger Reporting
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement	
- UE internal measurement quantity	Present
-CHOICE *mode*	FDD
-UE internal measurement quantity	UE Transmitted Power
-Filter coefficient	0
- UE internal reporting quantity	Present
- UE Transmitted Power	TRUE
- CHOICE *mode*	FDD
- UE Rx-Tx time difference	FALSE
- CHOICE *report criteria*	UE internal measurement reporting criteria
- Parameters sent for each UE internal measurement event	
-UE internal event identity	6A
-Time-to-trigger	100 milliseconds
-UE Transmitted Power Tx power threshold	18 dBm
-UE internal event identity	6B
-Time-to-trigger	100 milliseconds
-UE Transmitted Power Tx power threshold	15 dBm
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "UE Internal measured results"
- UE internal measured results	
-CHOICE *mode*	Check to see if set to "FDD"
UE Transmitted Power	Check to see if present and value is reasonable
Measured Results on RACH	Check to see if this IE is absent
Event results	
-CHOICE *event result*	Check to see if set to "UE internal measurement event results"
-UE internal event identity	Check to see if set to "6A"
-CHOICE *mode*	Check to see if set to "FDD"
-Primary CPICH info	Check to see if this IE is absent

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "UE Internal measured results"
- UE internal measured results	
-CHOICE *mode*	Check to see if set to "FDD"
UE Transmitted Power	Check to see if present and value is reasonable
Measured Results on RACH	Check to see if this IE is absent
Event results	
-CHOICE *event result*	Check to see if set to "UE internal measurement event results"
-UE internal event identity	Check to see if set to "6B"
-CHOICE *mode*	Check to see if set to "FDD"
-Primary CPICH info	Check to see if this IE is absent

8.4.1.27.5 Test Requirement

After step 3, the UE shall transmit MEASUREMENT REPORT message, containing measured results for UE transmitted power. The 'Event results' IE contains event identity 6A.

After step 5, the UE shall transmit MEASUREMENT REPORT message, containing measured results for UE transmitted power. The 'Event results' IE contains event identity 6B.

8.4.1.28 Measurement Control and Report: UE internal measurement for events 6F and 6G

8.4.1.28.1 Definition

8.4.1.28.2 Conformance requirement

When event 6F is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message when the UE Rx-Tx time difference becomes larger than the threshold defined by the IE "UE Rx-Tx time difference threshold".

When event 6G is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT when the UE Rx-Tx time difference becomes less than the threshold defined by the IE "UE Rx-Tx time difference threshold".

~~When in CELL_DCH state, the UE shall start to use the new measurement and reporting parameters for UE internal measurement received in the MEASUREMENT CONTROL message. It shall transmit MEASUREMENT REPORT message, which include the measured quantity and event identity, when the reporting criteria is met.~~

Reference

3GPP TS 25.331, clauses 14.6.2.6 and 14.6.2.7.

8.4.1.28.3 Test Purpose

1. To confirm that the UE performs UE internal measurements and reporting for events 6F and 6G, when requested by the UTRAN to do so in the MEASUREMENT CONTROL message.

8.4.1.28.4 Method of test

Initial Condition

System Simulator: 1 cell – The initial configuration of the cell 1 in the SS shall follow the values indicated in table 6.1.2 of TS 34.108.

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 6.1.2 of TS 34.108 specifies the radio conditions to be applied for the cells in this test.

The UE is in CELL_DCH state in cell 1, after successfully executing procedures P11 or P13 as specified in clause 7.4 of TS 34.108.

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.

Next, SS transmits MEASUREMENT CONTROL message to request the UE to perform UE internal measurements and reporting for events 6F and 6G.

SS adjusts the Tx timing of cell 2 above the threshold set to event 6F. After 'time to trigger' UE sends MEASUREMENT REPORT, triggered by event 6F, to SS.

SS adjusts the Tx timing of cell 2 below the threshold set to event 6G. After 'time to trigger' UE sends MEASUREMENT REPORT, triggered by event 6G, to SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state in cell 1.
2	←		ACTIVE SET UPDATE	SS asks UE to add cell 2 into the active set.
3	→		ACTIVE SET UPDATE COMPLETE	
4	←		MEASUREMENT CONTROL	SS requests for measurement and reporting of events 6F and 6G.
5				SS switches Tx timing of cell 2 to a delay of -192 chips with respect to cell 1.
6	→		MEASUREMENT REPORT	UE shall send 6F event measurement report.
7				SS switches Tx timing of cell 2 to a delay of 192 chips with respect to cell 1.
8	→		MEASUREMENT REPORT	UE shall send 6G event measurement report.
9	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

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	0
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- CHOICE mode	FDD
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	0
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
Radio link removal information	Not Present

ACTIVE SET UPDATE COMPLETE (Step 3)

Information Element	Value/remark
RRC transaction identifier	Check to see if it is set to 0

MEASUREMENT CONTROL (Step 4)

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 Mode	Event Trigger Reporting
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement	
-UE Internal measurement quantity	Present
- CHOICE *mode*	FDD
- Measurement quantity	UE Rx-Tx time difference
- Flter coefficient	0
- UE internal reporting quantity	Present
- UE Transmitted Power	FALSE
- CHOICE *mode*	FDD
- UE Rx-Tx time difference	TRUE
- CHOICE *report criteria*	UE internal measurement reporting criteria
- Parameters sent for each UE internal measurement event	
-UE internal event identity	6F
-Time-to-trigger	0 milliseconds
-UE Rx-Tx time difference threshold	1174
-UE internal event identity	6G
-Time-to-trigger	0 milliseconds
-UE Rx-Tx time difference threshold	874
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "UE Internal measured results"
- UE internal measured results	
-CHOICE *mode*	Check to see if set to "FDD"
UE Rx-Tx report entries	
- Primary CPICH info	
-Primary scrambling code	Check to see if set to codes assigned for cell 1 & cell 2.
-UE Rx-Tx time difference type 1	Check to see if present and value is reasonable
Measured Results on RACH	Check to see if this IE is absent
Event results	
-CHOICE *event result*	Check to see if set to "UE internal measurement event results"
-UE internal event identity	Check to see if set to "6F"
-CHOICE *mode*	Check to see if set to "FDD"
-Primary CPICH info	
-Primary scrambling code	Check to see if set to code assigned for cell 2.

MEASUREMENT REPORT (Step 8)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 5
Measured Results	
- CHOICE measurement	Check to see if set to "UE Internal measured results"
- UE internal measured results	
-CHOICE *mode*	Check to see if set to "FDD"
UE Rx-Tx report entries	
- Primary CPICH info	
-Primary scrambling code	Check to see if set to codes assigned for cell 1 & cell 2.
-UE Rx-Tx time difference type 1	Check to see if present and value is reasonable
Measured Results on RACH	Check to see if this IE is absent
Event results	
-CHOICE *event result*	Check to see if set to "UE internal measurement event results"
-UE internal event identity	Check to see if set to "6G"
-CHOICE *mode*	Check to see if set to "FDD"
-Primary CPICH info	
-Primary scrambling code	Check to see if set to code assigned for cell 2.

8.4.1.28.5 Test Requirement

After step 5, the UE shall transmit MEASUREMENT REPORT message, containing measured results for UE Rx-Tx time difference. The 'Event results' IE contains event identity 6F.

After step 7, the UE shall transmit MEASUREMENT REPORT message, containing measured results for UE Rx-Tx time difference. The 'Event results' IE contains event identity 6G.

8.4.1.29 Measurement Control and Report: Event based Traffic Volume measurement in CELL_FACH state.

8.4.1.29.1 Definition

8.4.1.29.2 Conformance requirement

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in TS 25.331 subclause 8.6 unless otherwise specified below.

The UE shall:

1> read the IE "Measurement command";

1> if the IE "Measurement command" has the value "setup":

2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":

…

2> for measurement type "UE positioning measurement":

…

2> for any other measurement type:

3> if the measurement is valid in the current RRC state of the UE:

4> begin measurements according to the stored control information for this measurement identity.

…

For traffic volume measurements in the UE only one quantity is compared with the thresholds. This quantity is Transport Channel Traffic Volume (which equals the sum of Buffer Occupancies of RBs multiplexed onto a transport channel) in number of bytes. Every TTI, UE measures the Transport Channel Traffic Volume for each transport channel and compares it with the configured thresholds. If the monitored Transport Channel Traffic Volume exceeds an absolute threshold, i.e. if TCTF>Reporting threshold, this is an event (event 4a) that could trigger a report. The corresponding report specifies at least which measurement ID the event that triggered the report belongs to.

In CELL_FACH state, the UE shall:

1> transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT IDENTITY are met for any ongoing traffic volume measurement or UE positioning measurement that is being performed in the UE;

1> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);

1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

~~Event based transport channel traffic volume measurement compares sum of buffer occupancies of RBs multiplexed onto a transport channel to the threshold, which UE receives from the network. When transport channel traffic volume exceeds threshold UE sends RRC: Measurement Report towards network. Message includes at least indication of measurement identity. In CELL_FACH state UE has only RACH transport channel.~~

Reference

3GPP TS 25.331, clause 14.4.2.1, 3GPP TS 25.331, clause 8.4.1.3, 8.4.2.2.

8.4.1.29.3 Test Purpose

1. ~~1.~~ To verify that in CELL_FACH state when event 4a triggers UE sends RRC: Measurement Report with correct measurement identity and indication of UL transport channel type, radio bearer identities and corresponding RLC buffer payloads in number of bytes.

2. To confirm that the UE includes in the MEASUREMENT REPORT message, measurement report in IE “Measurement results on RACH” as specified in System Information Block type 12.

8.4.1.29.4 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.

System Information Block type 11 nor 12 does not include Traffic Volume measurement system information.

Test Procedure

The UE is brought to the CELL_FACH state after a successful incoming call attempt. The SS follows the procedure in TS 34.108 clause 7.1.3 (Mobile Terminated), to set up a user RAB, but with the default RAB replaced by the one described in 34.108, clause 6.10.2.4.3.2: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH

+ SRB for BCCH for DL and 6.10.2.4.4.1: Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH for UL. The radio bearer is placed into UE test loop mode 1 described in 34.109 clause 5.3. The System Information Block type 12 is modified compared to the default settings so that CPICH RSCP is reported for intra-frequency reporting when transmitting RACH messages. After this modification , SS sends to UE RRC: MEASUREMENT CONTROL message, which includes traffic volume measurement control parameters eg. uplink transport channel type and reporting threshold. Transport channel traffic volume exceeds threshold and after 'time to trigger' UE sends RRC: MEASUREMENT REPORT to SS. SS does not respond and after 'pending time after trigger' UE sends again same RRC: MEASUREMENT REPORT. SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_FACH state in the cell 1.
1a	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 12	System Information Block type 12 is different from the default settings (see specific message contents)
1b	←		SYSTEM INFORMATION CHANGE INDICATION	To notify the modification of SYSTEM INFORMATION BLOCK TYPE 12, this message Is transmitted.
2	←		MEASUREMENT CONTROL	SS provides Traffic Volume measurement criterias to UE.
3	→		MEASUREMENT REPORT	UE reports that Traffic Volume measurement event 4A is triggered.
4	→		MEASUREMENT REPORT	UE repeats message after 1000 ms.
5	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Content

System Information Block type 12 (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
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- 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
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not present
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH RSCP
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- 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	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each event	
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	15 dB
- Cells forbidden to affect reporting range	Not Present
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	0
- Replacement activation threshold	Not Present

Information Element	Value/Remark
- Time to trigger	60 ms
- Amount of reporting	Infinity
- Reporting interval	16 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
- CHOICE reported cell	
- Maximum number of reported cells	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

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 Value tag	2

SYSTEM INFORMATION CHANGE INDICATION (Step 1b)

Information Element	Value/remark
Message Type	
BCCH modification info	
MIB Value Tag	2
BCCH Modification time	Not Present

MEASUREMENT CONTROL (Step 2)

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	
- Traffic volume measurement object	
- Uplink transport channel type	RACH
- Traffic volume measurement quantity	
- Measurement quantity	RLC buffer payload
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	All states
- UE state	
- Traffic volume measurement reporting criteria	4a
- Traffic volume event identity	8
- Reporting threshold	100
- Time to trigger	1000
- Pending time after trigger	250
- Tx interruption after trigger	

MEASUREMENT REPORT (Step 3 and step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Traffic volume measured results list"
- Traffic volume measurement results	
- RB Identity	1
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	2
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	3
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	4
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	20
- RLC Buffers Payload	Check to see if the value is reasonable
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
~~- RB identity~~	~~Check that value is correct~~
~~- RLC buffers payload~~	~~Check that value is reasonable~~
Measured Results on RACH	~~Not checked~~
- Measurement result for current cell	Check to see if set to 'CPICH RSCP'
- CHOICE measurement quantity	Checked to see if set to within an acceptable range.
- CPICH RSCP	
- Measurement results for monitored cells	Checked to see if this IE is absent
Additional Measured results	Not checked
Event Results	
- Uplink transport channel type causing the event	Check to see if set to "RACH"
- UL transport channel identity	Check to see that is not set
- Traffic volume event identity	Check to see if set to "4a"

8.4.1.29.5 Test Requirement

In step 3 UE sends RRC: MEASUREMENT REPORT with correct measurement identity indication. RB identity and RLC buffers payload has reasonable values. . The IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP shall be included in this message.

In step 4 UE repeats message sent in step 3.

After step 3 UE is not allowed to send user data during the 'Tx interruption after trigger' timer is running.

8.4.1.30 Measurement Control and Report: Event based Traffic Volume measurement in CELL_DCH state.

8.4.1.30.1 Definition

8.4.1.30.2 Conformance requirement

Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in TS 25.331 subclause 8.6 unless otherwise specified below.

The UE shall:

1> read the IE "Measurement command";

1> if the IE "Measurement command" has the value "setup":

2> store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", first releasing any previously stored measurement with that identity if that exists;

2> for measurement types "inter-RAT measurement" or "inter-frequency measurement":

…

2> for measurement type "UE positioning measurement":

…

2> for any other measurement type:

3> if the measurement is valid in the current RRC state of the UE:

4> begin measurements according to the stored control information for this measurement identity.

…

For traffic volume measurements in the UE only one quantity is compared with the thresholds. This quantity is Transport Channel Traffic Volume (which equals the sum of Buffer Occupancies of RBs multiplexed onto a transport channel) in number of bytes. Every TTI, UE measures the Transport Channel Traffic Volume for each transport channel and compares it with the configured thresholds.

If the monitored Transport Channel Traffic Volume exceeds an absolute threshold, i.e. if TCTF>Reporting threshold, this is an event (event 4a) that could trigger a report. The corresponding report specifies at least which measurement ID the event that triggered the report belongs to.

If the monitored Transport Channel Traffic Volume becomes smaller than an absolute threshold, i.e. if TCTF<Reporting threshold, this is an event (4b) that could trigger a report. The corresponding report specifies at least which measurement ID the event that triggered the report belongs to.

~~Event based transport channel traffic volume measurement compares sum of buffer occupancies of RBs multiplexed onto a transport channel to the threshold, which UE receives from the network. When transport channel traffic volume exceeds threshold UE sends RRC: Measurement Report towards network. Message includes at least indication of measurement identity. In CELL_DCH state each DCH may have own measurement activated with own threshold.~~

Reference

3GPP TS 25.331, clause 14.4.2.2, 3GPP TS 25.331, clause 8.4.1.3

8.4.1.30.3 Test Purpose

1. To verify that in CELL_DCH state when event 4a or 4b triggers UE sends RRC: Measurement Report with correct measurement identity and indication of uplink transport channel type and identity, radio bearer identities and corresponding RLC buffer payloads in number of bytes.

8.4.1.30.4 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.

System Information Block type 11 nor 12 does not include Traffic Volume measurement system information.

Test Procedure

The UE is brought to the CELL_DCH state after a successful incoming call attempt. The SS follows the procedure in TS 34.108 clause 7.1.3 (Mobile Terminated), to set up a user RAB, but with the default RAB replaced by the one described in 34.108, clause 6.10.2.4.1.26: Interactive or background / UL: 64 DL: 64 kbps / PS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH. The radio bearer is placed into UE test loop mode 1 described in 34.109 clause 5.3. SS sends to UE RRC: MEASUREMENT CONTROL messages, which includes in addition to measurement identity traffic volume measurement control parameters eg. uplink transport channel type and identity and reporting threshold for both events 4a and 4b. Transport channel traffic volume exceeds threshold and after 'time to trigger' UE sends RRC: MEASUREMENT REPORT to SS. SS does not respond and after 'pending time after trigger' UE sends again same RRC: MEASUREMENT REPORT. UE's transport channel load decreases to zero, event 4b triggers and previous signaling procedure repeats. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1.
2	←		MEASUREMENT CONTROL	SS provides Traffic Volume measurement criterias (event 4a) to UE.
3	←		MEASUREMENT CONTROL	SS provides Traffic Volume measurement criterias (event 4b) to UE.
4	→		MEASUREMENT REPORT	UE's transport channel is loaded. UE reports that Traffic Volume measurement event 4A is triggered.
5	→		MEASUREMENT REPORT	UE repeats message after 2000 ms.
6	→		MEASUREMENT REPORT	UE's transport channel traffic volume decreases to zero. UE reports that Traffic Volume measurement event 4B is triggered.
7	→		MEASUREMENT REPORT	UE repeats message after 2000 ms.
8	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	
- Traffic volume measurement objects	
- Uplink transport channel type	DCH
- UL target transport channel ID	1
- Traffic volume measurement quantity	
- Measurement quantity	RLC buffer payload
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	CELL_DCH
- UE state	
- Traffic volume measurement reporting criteria	4a
- Traffic volume event identity	256
- Reporting threshold	100
- Time to trigger	2000
- Pending time after trigger	Not present
- Tx interruption after trigger	

MEASUREMENT CONTROL (Step 3)

Information Element	Value/Remark
Measurement Identity	14
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	
- Traffic volume measurement objects	
- Uplink transport channel type	DCH
- UL target transport channel ID	1
- Traffic volume measurement quantity	
- Measurement quantity	RLC buffer payload
- Traffic volume reporting quantity	
- RLC Buffer Payload for each RB	TRUE
- Average of RLC Buffer Payload for each RB	FALSE
- Variance of RLC Buffer Payload for each RB	FALSE
- Measurement validity	CELL_DCH
- UE state	
- Traffic volume measurement reporting criteria	4b
- Traffic volume event identity	32
- Reporting threshold	100
- Time to trigger	2000
- Pending time after trigger	Not present
- Tx interruption after trigger	

MEASUREMENT REPORT (Step 4 and step 5)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 15
Measured Results	
- CHOICE measurement	Check to see if set to "Traffic volume measured results list"
- Traffic volume measurement results	
- RB Identity	1
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	2
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	3
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	4
- RLC Buffers Payload	Check to see if this IE is present
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
- RB Identity	20
- RLC Buffers Payload	Check to see if the value is reasonable
- Average of RLC Buffer Payload	Check to see if this IE is absent
- Variance of RLC Buffer Payload	Check to see if this IE is absent
~~- RB identity~~	~~Check that value is correct~~
~~- RLC buffers payload~~	~~Check that value is reasonable~~
Measured Results on RACH	Not checked
Additional Measured results	Not checked
Event Results	
- Uplink transport channel type causing the event	Check to see if set to "DCH"
- UL transport channel identity	Check to see if set to "1"
- Traffic volume event identity	Check to see if set to "4a"

MEASUREMENT REPORT (Step 6 and step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to "Traffic volume measured results list"
- Traffic volume measurement results	
- RB identity	Check that value is correct
- RLC buffers payload	Check that value is reasonable
Measured Results on RACH	Not checked
Additional Measured results	Not checked
Event Results	
- Uplink transport channel type causing the event	Check to see if set to "DCH"
- UL transport channel identity	Check to see if set to "1"
- Traffic volume event identity	Check to see if set to "4b"

8.4.1.30.5 Test Requirement

In steps 4, 5, 6 and 7 UE sends RRC: MEASUREMENT REPORT with correct measurement identity indication. RB identity and RLC buffers payload has correct values. Measurement identity, transport channel type, transport channel identity and event identity has to match with set values.

8.4.1.32 Void

8.4.1.37 Measurement Control and Report: UE internal measurement, event 6c

8.4.1.37.1 Definition

8.4.1.37.2 Conformance requirement

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the UE Tx power reaches its minimum value.

Reference

3GPP TS 25.331 clause 14.6.2.3.

8.4.1.37.3 Test Purpose

1 To confirm that the UE sends a measurement report for event 6c when the UE Tx power reaches its minimum value when event 6c has been configured in the UE through a MEASUREMENT CONTROL message.

8.4.1.37.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell.

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Test procedure

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108.

The SS sends a MEASUREMENT CONTROL message to the UE that configures event 6c.

The SS sends TPC_cmd equal to -1 until the transmitter power of the UE reaches its minimum value. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1.
2	←		MEASUREMENT CONTROL	SS configures event 6c in the UE.
3	←			The SS sends TPC_cmd equal to -1 until the transmitter power of the UE reaches its minimum value, which shall be below –50 dBm.
4	→		MEASUREMENT REPORT	The UE sends a MEASUREMENT REPORT to SS triggered by event 6c.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific message content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity	6
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- UE internal measurement	
- UE internal measurement quantity	UE Transmitter Power
- Filter coefficient	0
- UE internal reporting quantity	
- UE Transmitted power	TRUE
- CHOICE mode	
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	
- UE internal measurement reporting criteria	
- Parameters sent for each UE internal measurement event	1 event
- UE internal event identity	event 6c
- Time to trigger	0

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 6
Measured Results	
- CHOICE measurement	Check to see if set to "UE internal measurement"
- UE internal measured results	
- UE Transmitted Power	Check that this IE is set a value that is below –50 dBm.
- UE Rx-Tx report entities	Check that this IE is not included
Measured results on RACH	Check that this IE is not included
Additional measured results	Check that this IE is not included
Event Results	
CHOICE *event result*	Check that this IE is set to UE internal measurement event results
UE internal measurement results	
UE internal event identity	Check that this IE is set to 6c
CHOICE *mode*	
Primary CPICH info	This IE should not be included

8.4.1.37.5 Test requirement

The UE shall then begin transmitting a MEASUREMENT REPORT message to SS triggered by event 6c when its transmit power has reached its minimum output power. The minimum transmitted power of the UE shall be less than –50dBm.

8.4.1.38 Measurement Control and Report: UE internal measurement, event 6d

8.4.1.38.1 Definition

8.4.1.38.2 Conformance requirement

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the UE Tx power reaches its maximum value.

Reference

3GPP TS 25.331 clause 14.6.2.4

8.4.1.38.3 Test Purpose

1 To confirm that the UE sends a measurement report for event 6d when the UE Tx power reaches its maximum value when event 6d has been configured in the UE through a MEASUREMENT CONTROL message.

8.4.1.38.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell .

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Test procedure

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108.

The SS sends TPC_cmd equal to +1 until the transmitter power of the UE reaches its maximum value. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1.
2	←		MEASUREMENT CONTROL	SS configures event 6d in the UE.
3	←			The SS sends TPC_cmd equal to +1 until the transmitter power of the UE reaches its maximum value.
4	→		MEASUREMENT REPORT	After about 200 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 6d.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	6
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- UE internal measurement	
- UE internal measurement quantity	UE Transmitter Power
- Filter coefficient	0
- UE internal reporting quantity	
- UE Transmitted power	TRUE
- CHOICE mode	
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	
- UE internal measurement reporting criteria	
- Parameters sent for each UE internal measurement event	1 event
- UE internal event identity	event 6d
- Time to trigger	200

MEASUREMENT REPORT (Step 3)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 6
Measured Results	
- CHOICE measurement	Check to see if set to "UE internal measurement"
- UE internal measured results	
- UE Transmitted Power	Check that this IE is set to the maximum outpower of the UE.
- UE Rx-Tx report entities	Check that this IE is not included
Measured results on RACH	Check that this IE is not included
Additional measured results	Check that this IE is not included
Event Results	
CHOICE *event result*	Check that this IE is set to UE internal measurement event results
UE internal measurement results	
UE internal event identity	Check that this IE is set to 6d
CHOICE *mode*	
Primary CPICH info	This IE should not be included

8.4.1.38.5 Test requirement

The UE shall then begin transmitting a MEASUREMENT REPORT message to SS triggered by event 6d when its transmit power has reached its maximum. The maximum transmitted power of the UE shall be according to the class of the UE.

8.4.1.39 Measurement Control and Report: UE internal measurement, event 6e

8.4.1.39.1 Definition

8.4.1.39.2 Conformance requirement

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the UE RSSI reaches the UE's dynamic receiver range.

Reference

3GPP TS 25.331 clause 14.6.2.5

8.4.1.39.3 Test Purpose

1 To confirm that the UE sends a measurement report for event 6e when the UE RSSI reaches the UE's dynamic receiver range when event 6e has been configured in the UE through a MEASUREMENT CONTROL message.

8.4.1.39.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell .

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Test procedure

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108.

The SS increases its output power by 0.5 dB step until the UE RSSI reaches the UE's receiver dynamic range. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1.
2	←		MEASUREMENT CONTROL	SS configures event 6e in the UE.
3	←			The SS increases its output power by 0.5 dB steps until the UE RSSI reaches the UE's receiver dynamic range.
4	→		MEASUREMENT REPORT	The UE sends a MEASUREMENT REPORT to SS triggered by event 6e.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

MEASUREMENT CONTROL (Step 1)

Information Element	Value/Remark
Measurement Identity	6
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- UE internal measurement	
- UE internal measurement quantity	UTRA Carrier RSSI
- Filter coefficient	0
- UE internal reporting quantity	Not included
CHOICE report criteria	
- UE internal measurement reporting criteria	
- Parameters sent for each UE internal measurement event	1 event
- UE internal event identity	event 6e
- Time to trigger	0

MEASUREMENT REPORT (Step 3)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 6
Measured Results	Check that this IE is not included
Measured results on RACH	Check that this IE is not included
Additional measured results	Check that this IE is not included
Event Results	
CHOICE *event result*	Check that this IE is set to UE internal measurement event results
UE internal measurement results	
UE internal event identity	Check that this IE is set to 6e
CHOICE *mode*	
Primary CPICH info	This IE should not be included

8.4.1.39.5 Test requirement

The UE shall then begin transmitting a MEASUREMENT REPORT message to SS triggered by event 6e when the UE RSSI reaches the UE's receiver dynamic range.

3GPP TSG–T1 Meeting #16
Yokohama, Japan, July 29 – Aug 2, 2002
3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29-31 July 2002

Tdoc T1-020536

Tdoc ⌘ T1S-020531

CR-Form-v6.1

CHANGE REQUEST

⌘	TS 34.123-1	CR	280	⌘ rev	-	⌘	Current version:	5.0.1	⌘

Spec Title: User Equipment (UE) conformance specification; Part 1: Protocol conformance specification ⌘

*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:	⌘	CR to 34.123-1 REL-5; Additional test case for timing re-initialised inter-frequency handover
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	31/07/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	No test case covers timing re-initialised inter-frequency handover Changes in this document compared to T1S-020438 marked in yellow.
Summary of change:	⌘	One test case is proposed to be added to chapter 8.2.6, aiming at testing timing re-initialised inter-frequency handover.
Consequences if not approved:	⌘	No test case covering timing re-initialised inter-frequency handover, while this is an important function to test.

Clauses affected:	⌘	8.2.6.37 (new)
Other specs affected:	⌘	[ ] Other core specifications ⌘ [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	Affects R99, REL-4 and REL-5 test cases.

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.2.6.37 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency with timing re-initialised)

8.2.6.37.1 Definition

8.2.6.37.2 Conformance requirement

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

1> apply the hard handover procedure as specified (below);

1> be able to perform this procedure even if no prior UE measurements have been performed on the target cell and/or frequency.

…

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

…

When performing hard handover with change of frequency, the UE shall:

1> stop all intra-frequency and inter-frequency measurements on the cells listed in the variable CELL_INFO_LIST until a MEASUREMENT CONTROL message is received from UTRAN.

…

When the UE is in CELL_DCH state and receives any of the messages causing the UE to perform a hard handover, the UE shall check the IE "Timing indication" in that message and:

1> if IE "Timing indication" has the value "initialise" (i.e. timing re-initialised hard handover):

2> read SFN on target cell identified by the first radio link listed in the IE "Downlink information per radio link list" included in that message;

2> set the CFN according to the following formula:

3> for FDD:

$$CFN = (SFN - (DOFF \text{ div } 38400)) \bmod 256$$

where the formula gives the CFN of the downlink DPCH frame which starts at the same time as or which starts during the PCCPCH frame with the given SFN.

…

If the IE "DPCH compressed mode info" is included, and if the IE group "transmission gap pattern sequence configuration parameters" is not included, the UE shall:

1> if pattern sequence corresponding to IE "TGPSI" is already active (according to "Current TGPS Status Flag" in the variable TGPS_IDENTITY):

2> if the "TGPS Status Flag" in this message is set to "deactivate" for the corresponding pattern sequence:

3> deactivate this pattern sequence at the beginning of the frame, indicated by IE "Activation time" received in this message, when the new configuration received in this message is taken into use;

…

If the IE "Downlink DPCH info common for all RL" is included in a message used to perform a Timing re-initialised hard handover or the IE "Downlink DPCH info common for all RL" is included in a message other than RB SETUP used to transfer the UE from a state different from Cell_DCH to Cell_DCH, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

1> set the 20 MSB of the HFN component of COUNT-C for TM-RLC to the value of the latest transmitted IE "START" or "START List" for this CN domain, while not incrementing the value of the HFN component of COUNT-C at each CFN cycle; and

1> set the remaining LSBs of the HFN component of COUNT-C to zero;

1> start to perform ciphering on the radio bearer in lower layers while not incrementing the HFN;

1> include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now" for this IE;

1> calculate the START value according to subclause 8.5.9;

1> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the response message;

1> at the CFN value as indicated in the response message in the IE "COUNT-C activation time":

2> set the 20 MSB of the HFN component of the COUNT-C variable to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and

2> set the remaining LSBs of the HFN component of COUNT-C to zero;

2> increment the HFN component of the COUNT-C variable by one;

2> set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;

2> step the COUNT-C variable, as normal, at each CFN value, i.e. the HFN component is no longer fixed in value but incremented at each CFN cycle.

Reference

3GPP TS 25.331 clauses 8.2.2.3, 8.3.5, 8.5.15.2, 8.6.6.15, 8.6.6.28

8.2.6.37.3 Test Purpose

To confirm that the UE is able to perform a hard-handover with change of frequency, with and without prior measurements on the target frequency.

To confirm that the UE answers with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message when the procedure has been initiated with the PHYSICAL CHANNEL RECONFIGURATION message.

To confirm that the UE stops intra-frequency measurements after the inter-frequency handover has been performed, until a MEASUREMENT CONTROL message is received from the SS.

To confirm that the UE computes as it shall the CFN to be used after the handover.

To confirm that the UE deactivates compressed mode when it has been ordered to do so in the PHYSICAL CHANNEL RECONFIGURATION message.

To confirm that the UE includes the IE "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info") in the response message if ciphering is active for any radio bearer using RLC-TM.

8.2.6.37.4 Method of test

Initial Condition

System Simulator: 5 cells – Cell 1 and cell 2 on frequency f_1, cell 3 and cell 4 on frequency f_2, and cell 5 on frequency f_3. Cells 2 and 4 shall have the same primary scrambling code.

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 supported by the UE. If the UE supports both CS and PS domains, the test case shall be run twice, once starting from state 6-9, once starting from state 6-10. Ciphering shall be activated.

Test Procedure

Table 8.2.6.37-1 illustrates the downlink power to be applied for the 4 cells, as well as the frequency and scrambling code for each cell.

Table 8.2.6.37-1

Parameter	**Unit**	**Cell 1**			**Cell 2**			**Cell 3**			**Cell 4**			**Cell 5**		
Frequency		f_1			f_1			f_2			f_2			f_3		
Scrambling code		Scrambling code 1			Scrambling code 2			Scrambling code 3			Scrambling code 2			Scrambling code 4		
		T0	T1	T2	T0	T1	T2	T0	T1	T2	T0	T1	T2	T0	T1	T2
CPICH Ec	dBm/3.84 MHz	-60	-60	-75	-95	-60	-75	-60	-60	-60	-60	-60	-62	-50	-50	-50

The UE is initially in CELL_DCH, and has only cell 1 in its active set.

At instant T1, the downlink power is changed according to what is shown in table 8.2.6.37 -1. Cell 2 should then trigger event 1a as has been configured through the default System Information Block Type 11. The UE shall thus send a MEASUREMENT REPORT to the SS, triggered by cell 2.

The SS adds then cell 2 to the active set of the Ue, by sending an ACTIVE SET UPDATE message to the UE. The UE shall answer with an ACTIVE SET UPDATE COMPLETE message.

The SS configures then compressed mode, to prepare the UE for inter-frequency measurements, by sending a PHYSICAL CHANNEL RECONFIGURATION message on DCCH using AM-RLC. The UE shall answer with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

The SS then sets up inter-frequency measurements (event 2b), by sending a MEASUREMENT CONTROL message to the UE. Compressed mode is started at the same time in that message.

At instant T2, the downlink power is changed according to what is shown in table 8.2.6.37-1. Frequency f_2 shall then trigger event 2b, and the UE shall transmit a MEASUREMENT REPORT message to the SS.

SS then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 3 on frequency f_2. The UE is also ordered to stop compressed mode after the handover.

The UE shall then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS when the inter-frequency handover has succeeded. In case the initial condition was CS-DCCH+DTCH_DCH, that message shall contain the IEs "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info"), indicating to the SS when and from which value to start incrementing the HFN part of the COUNT-C variable used for ciphering. The SS shall restart incrementing the HFN part of the COUNT-C variable from the value specified in the IE START from the CFN indicated in the IE COUNT-C activation time.

The SS then waits for 20 seconds, and checks that no MEASUREMENT REPORT is received from the UE.

The SS sends then a MEASUREMENT CONTROL message to the UE, to modify the intra-frequency cell info list of the UE. About 640 ms after, a MEASUREMENT REPORT message shall be received from the UE, triggered by cell 4. Subsequent MEASUREMENT REPORT messages shall be received at 4 seconds interval.

The SS sends then a MEASUREMENT CONTROL message to the UE that sets up inter-frequency measurements, but does not activate compressed mode in that message. It waits then for 20 seconds, and checks that no MEASUREMENT REPORT message triggered by cell 5 is received.

The SS then sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE on DCCH using AM-RLC, to order it to perform timing reinitialised inter-frequency handover to cell 5 on frequency f_3.

The UE shall then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS when the inter-frequency handover has succeeded. In case the initial condition was CS-DCCH+DTCH_DCH, that message shall contain the IEs "COUNT-C activation time" and the IE "START list" (in the IE "Uplink counter synchronisation info"), indicating to the SS when and from which value to start incrementing the HFN part of the COUNT-C variable used for ciphering.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS changes the power of the cells according to column T1 in table 8.2.6.37-1
2	→		MEASUREMENT REPORT	Event 1a is triggered by cell 2 in the UE, which sends a MEASUREMENT REPORT message to the SS
3	←		ACTIVE SET UPDATE	The SS adds cell 2 to the active set of the UE.
4	→		ACTIVE SET UPDATE COMPLETE	The UE answers with an ACTIVE SET UPDATE COMPLETE message to the SS
5	←		PHYSICAL CHANNEL RECONFIGURATION	The SS downloads the compressed mode parameters in the UE.
6	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE acknowleges the downloading of the compressed mode parameters.
7	←		MEASUREMENT CONTROL	The SS configures inter-frequency measurements in the UE, and activates compressed mode.
8				The SS changes the power of the cells according to column T2 in table 8.2.6.37-1.
9	→		MEASUREMENT REPORT	Frequency f_2 triggers event 2b in the UE, which sends a MEASUREMENT REPORT message to the SS.
10	←		PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 3 on frequency f_2.

11	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	After the UE has succeeded in performing the inter-frequency handover, it shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS using the new configuration.
12			The SS waits for 20 seconds and monitors that no MEASUREMENT REPORT message is received from the UE.
13	←	MEASUREMENT CONTROL	The SS updates the list of intra-frequency cells in the UE.
14	→	MEASUREMENT REPORT	Cell 4 triggers event 1a in the UE, which sends a MEASUREMENT REPORT message to the SS. Subsequent MEASUREMENT REPORT messages shall be received from the UE at 4 seconds interval.
15	←	MEASUREMENT CONTROL	The SS sets up an inter-frequency measurement in the UE, but does not activate compressed mode.
16			The SS waits for 20 seconds and monitors that no MEASUREMENT REPORT message is received from the UE.
17	←	PHYSICAL CHANNEL RECONFIGURATION	The SS orders the UE to perform timing re-initialised inter-frequency handover to cell 5 on frequency f_3.
18	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	After the UE has succeeded in performing the inter-frequency handover, it shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS using the new configuration.

Specific Message Content

FFS

8.2.6.37.5 Test Requirement

After step 1, the UE shall send a MEASUREMENT REPORT message triggered by event 1a for cell 2.

After step 3, the UE shall send an ACTIVE SET UPDATE COMPLETE message to acknowledge that it has added cell 2 to its active set.

After step 5, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS to acknowledge the downloading of the compressed mode parameters that were sent in the PHYSICAL CHANNEL RECONFIGURATION message of step 4.

After step 8, the UE shall transmit a MEASUREMENT REPORT message triggered by frequency f_2. In that message, cell 3 shall be the only cell included in the IE event results.

After step 10, the UE shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS in cell 3 to acknowledge the successful timing re-initialised inter-frequency handover, and in case the UE was in state 6-9 as defined in clause 7.4 of 34.108 as initial condition to the test, the IEs "COUNT-C activation time" and "START list" (in the IE "Uplink counter synchronisation info") shall be included in that message. The UE shall also start incrementing the HFN part of the COUNT-C variable from the value specified in the IE START from the CFN indicated in the IE COUNT-C activation time.

After step 11, the UE shall not send any MEASUREMENT REPORT message triggered by event 1a for cell 4.

After step 13, the UE send a MEASUREMENT REPORT message triggered by event 1a for cell 4.

After step 15, the UE shall not send any MEASUREMENT REPORT message triggered by event 2c for frequency 1.

After step 17, the UE shall send a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the SS in cell 3 to acknowledge the successful timing re-initialised inter-frequency handover, and in case the UE was in state 6-9 as defined in clause 7.4 of 34.108 as initial condition to the test, the IEs "COUNT-C activation time" and "START list" (in the IE "Uplink counter synchronisation info") shall be included in that message.

3GPP TSG–T1 Meeting #16
Yokohama, Japan, July 29 – Aug 2, 2002
3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th- 31st July 2002

Tdoc T1-020537

Tdoc T1S-020530

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1 CR 281** ⌘ ev - ⌘ Current version: 5.0.1 ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 REL-5; Corrections to reference compressed mode pattern
Source:	⌘	Motorola, Panasonic, Ericsson
Work item code:	⌘	TEI
Date:	⌘	1-07-2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘

Reason for change from Panasonic CR T1S-020363:

1. Update Conformance Requirement according to core specification 25.331.
2. Editorial changes.
3. Add generic procedure at the end of some test cases to verify the final state of the UE..

Reason for change from Motorola CR T1S-020458:

1. It is more stable to perform measurement test cases when RAB's are established in either CELL_FACH or CELL_DCH state.
2. The present value of IE 'Used frequency W' is out of Range
3. UE will report RLC Buffer Payload for all Radio Bearers mapped on the Transport Channel.
4. The 'Choice Type for IE 'Reporting Cell Status' is missing
5. Renumbered the GSM cell Id's to start from 1, on lines of Clause 6, for consistensy.
6. The BCCH ARFCN of GSM-Cell3, changed to 2, as per table 6.5 in clause 6, for consistency

Reason for change from Ericsson CR T1S-020502:

Alignment of compressed mode patterns used in T1 test cases

Summary of change: ⌘

Summary of change from Panasonic and Motorola CRs:

In clause 8.4.1.33

- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Added T4 instant, the value of UTRAN cell is taken as –5dBm so that the event3a is not triggered.
- Changed the BCCH ARFCN of Cell3 to 39.
- Reporting cell status CHOICE TYPE should be 'Report cells within active set or within virtual active set or of the other RAT'.
- Included IE "Maximum number of reported cells".
- Changed the Cell Identity's of GSM cells from 0,1,2 to 1,2,3.

In clause 8.4.1.34

- Conformance requirement is updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Changed the BCCH ARFCN of Cell3 to 39.
- Reporting cell status CHOICE TYPE should be 'Report cells within active set or within virtual active set or of the other RAT'.
- Included IE "Maximum number of reported cells".
- Changed the Cell Identity's of GSM cells from 0,1,2 to 1,2,3.

In clause 8.4.1.35

- Conformance requirement is updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Reporting cell status CHOICE TYPE should be 'Report cells within active set or within virtual active set or of the other RAT'.
- Included IE "Maximum number of reported cells".
- Changed the Cell Identity's of GSM cells from 0,1,2 to 1,2,3.

In clause 8.4.1.36

- Conformance requirement and Test Purpose are updated.
- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Reporting cell status CHOICE TYPE should be 'Report cells within active set or within virtual active set or of the other RAT'.
- Included IE "Maximum number of reported cells".
- Changed the Cell Identity's of GSM cells from 0,1,2 to 1,2,3.

In clause 8.4.1.40

- SS called generic procedure C.3 to check that UE is in CELL_DCH at the end of test.
- Changed the BCCH ARFCN of Cell2 to 7.
- Reporting cell status CHOICE TYPE should be 'Report cells within active set or within virtual active set or of the other RAT'.
- Included IE "Maximum number of reported cells".
- Changed the Cell Identity's of GSM cells from 0,1,2 to 1,2,3.

Summary of change from Ericsson CR:

The used patterns in TC 8.4.1.33; 8.4.1.34; 8.4.1.35; 8.4.1.36; 8.4.1.40 are aligned to the patterns proposed in T1S-020342

Applicability statements added.

Consequences if not approved:	⌘	If changes are not approved, UE might not be tested properly.

Clauses affected:	⌘	8.4.1.33, 8.4.1.34, 8.4.1.35, 8.4.1.36, 8.4.1.40		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5		

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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.

8.4.1.33 Measurement Control and Report: Inter-RAT measurement, event 3a

8.4.1.33.1 Definition

8.4.1.33.2 Conformance requirement

1. When this event is ordered by UTRAN in a MEASUREMENT CONTROL message the UE shall send a report when the estimated quality of the currently used frequency is below the value of the IE "Threshold own system" and the hysteresis and time to trigger conditions are fulfilled and the estimated quality of the other system is above the value of the IE "Threshold other system" and the hysteresis and time to trigger conditions are fulfilled.

2. If the IE "DPCH Compressed Mode Status Info" is present, [in the MEASUREMENT CONTROL message]:

   - after the time indicated by IE "TGPS reconfiguration CFN" has elapsed:

     - activate the pattern sequence stored in the variable TGPS_IDENTITY corresponding to each IE "TGPSI" for which the "TGPS status flag" is set to "activate~~active~~" at the time indicated by IE "TGCFN"; and

     - begin the inter-frequency and/or inter-RAT measurements corresponding to the pattern sequence measurement purpose of each activated pattern sequence;

     - if the values of IE "TGPS reconfiguration CFN" and IE "TGCFN" are equal:

       - start the concerned pattern sequence immediately at that CFN;

   - not alter pattern sequences stored in variable TGPS_IDENTITY, but not identitifed in IE "TGPSI"

3. The UE shall perform GSM RSSI measurements in the gaps of compressed mode pattern sequence specified for GSM RSSI measurement purpose. The UE shall perform Initial BSIC identification in compressed mode pattern sequence specified for Initial BSIC identification measurement purpose. The UE shall be able to measure the "Observed time difference to GSM cell" during a compressed mode pattern sequence configured for this purpose. The UE shall perform BSIC re-confirmation in compressed mode pattern sequence specified for BSIC re-confirmation measurement purpose.

4. If the IE "Inter-RAT measurement quantity" is received in a MEASUREMENT CONTROL message and CHOICE system is GSM, the UE shall:

   - if IE "BSIC verification required" is set to "required", for cells that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list", and that has a "verified" BSIC:

     - report measurement quantities according to IE "inter-RAT reporting quantity" taking into account the restrictions defined in TS 25.331 clause 8.6.7.6;

     - trigger inter-RAT events according to IE "inter-RAT measurement reporting criteria"; and

   - perform event evaluation for event-triggered reporting after BSIC has been verified for a GSM cell

   - indicate non-verified BSIC for a GSM cell in the "Inter-RAT measured results list" IE

5. The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Inter-RAT reporting quantity".

6. If IE "Observed time difference to GSM cell" is set to "TRUE" [, the UE shall]:

   include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list".

   - if IE "GSM Carrier RSSI" is set to "TRUE"[, the UE shall]:

- include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-RAT measured results list".

- if the BSIC of reported GSM cell is "verified"[, the UE shall]:

  - set the CHOICE BSIC to "Verified BSIC" and IE "inter-RAT cell id" to the value that GSM cell had in the IE "Inter-RAT cell info list";

7. If the IE "Reporting Cell Status" is received, the UE shall set the IE "Measured Results" in MEASUREMENT REPORT as follows.

   - the maximum number of the IE "Cell Measured Results" to be included in the IE "Measured Results" is the number specified in "Reporting Cell Status".

Reference

3GPP TS 25.331 clauses 8.4.1.3, 8.6.7.5, 8.6.7.6, 8.6.7.9, 14.3.1.1, 14.3.2.1, 14.3.2.2, 14.3.2.3.

8.4.1.33.3 Test Purpose

1. To confirm that the UE starts compressed mode and inter-RAT measurements when so required by the network in a MEASUREMEN CONTROL message.

2. To confirm that the UE sends MEASUREMENT REPORT message if event 3a is configured, if the quality of the currently used UTRAN frequency is below a given threshold and the estimated quality of the other system is above a certain threshold.

3. To confirm that the hysteresis and time to trigger behaviours for event 3a are correctly implemented.

4. To confirm that the UE verifies the BSIC of the cell triggering the event if so required by UTRAN and if the proper compressed mode patterns have been configured in the UE by UTRAN.

5. To confirm that the content of the MEASUREMENT REPORT sent by the UE is according to what was required by UTRAN.

NOTE: Test purpose 1 verifies conformance requirement 1 and 2.

NOTE: Test purpose 2 and 3 verifies conformance requirement 1.

NOTE: Test purpose 4 verifies conformance requirement 2, 3 and 4.

NOTE: Test purpose 5 verifies conformance requirement 4, 5, 6 and 7.

8.4.1.33.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell and 3 GSM cells. The initial configurations of the 3 cells in the SS shall follow the values indicated in the column marked T0. The table is found in "Test procedure".

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test procedure

Table 8.4.1.33.4-1

Parameter	Unit	Cell 1 (GSM)					Cell 2 (GSM)					Cell 3 (GSM)				
		T0	T1	T2	T3	T4	T0	T1	T2	T3	T4	T0	T1	T2	T3	T4
Test Channel	#	GSM Ch.1					GSM Ch.2					GSM Ch.3				
BCCH ARFCN	#	1					7					~~2~~39				
CELL identity	#	~~0~~1					~~1~~2					~~2~~3				
BSIC	#	BSIC 1					BSIC 2					BSIC 3				
RF Signal Level	dBm	-85	-85	-70	-82	-70	-85	-85	-85	-77	-77	-90	-90	-90	-90	-90

Table 8.4.1.33.4-2

Parameter	Unit	Cell 1 (UTRA)				
		T0	T1	T2	T3	T4
UTRA RF Channel Number		Ch.1				
CPICH Ec/No	dB	-5	-20	-20	-20	-5

The two tables above illustrate the downlink power to be applied for the two cells at various instants of the test execution. Column marked "T0" denotes the initial conditions, while columns marked "T1", "T2" and "T3" indicate the values to be applied subsequently.

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108. UTRA cell 1 is the only cell in the active set of the UE. If the UE requires compressed mode (refer ICS/IXIT), ~~T~~the SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters to the UE. Three compressed mode patterns are configured, according to the message specified below. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message to the UE, to set up inter-RAT measurements. Event 3a is set up in this message, and if the UE requires compressed mode (refer ICS/IXIT), compressed mode is activated.

At instant T1, the CPICH Ec/No drops as described in table 8.4.1.33.4-2.

At instant T2, the RF signal for GSM cell 1 increases, and crosses the threshold for the other system defined for event 3a.

After reception of the MEASUREMENT REPORT message, at instant T3, the RF signal strength for GSM cell 2 increases above the threshold for the other system for event 3a. During that time, the RF signal strength for GSM cell 1 has dropped above the threshold for the other system for event 3a, but remains above threshold-hysteresis for event 3a.

At intant T4, the RF signal strength for GSM cell 1 increases above the threshold for the other system for event 3a+hysteresis. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 4.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS configures event 3a in the UE. If the UE requires compressed mode (refer ICS/IXIT), Ccompressed mode is started.
5				SS re-adjusts the downlink transmission power settings according to columns "T1" in tables 8.4.1.33.4-1 and 8.4.1.33.4-2.
6				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
7				SS re-adjusts the downlink transmission power settings according to columns "T2" in tables 8.4.1.33.4-1 and 8.4.1.33.4-2.
8	→		MEASUREMENT REPORT	After about 640 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 3a.
9				SS re-adjusts the downlink transmission power settings according to columns "T3" in tables 8.4.1.33.4-1 and 8.4.1.33.4-2.
10				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
11				SS re-adjusts the downlink transmission power settings according to columns "T4" in tables 8.4.1.33.4-1 and 8.4.1.33.4-2.
12				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
13	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	12~~8~~
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	12
- T Reconfirm abort	Not Present
- TGPSI	3
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence	

configuration parameters	
- TGMP	GSM BSIC re-confirmation
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 01
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	5 s

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove all inter-RAT cells
-Remove all inter-RAT cells	(No Data)
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=3
- inter-RAT cell id	0
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	1
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- inter-RAT cell id	2
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC3
- Band indicator	DCS 1800 band used
- BCCH ARFCN	2
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	
- Intra-frequency measurement quantity	
- Filter coefficient	0
- CHOICE mode	FDD
- Measurement quantity	Ec/No
CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	TRUE
- GSM carrier RSSI reporting indicator	TRUE
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3a
- Threshold own system	-12
- W	0
- Threshold other system	-80
- Hysteresis	5
- Time to Trigger	640 ms
- Reporting cell status	Report cells within active set or within virtual active set or of the other RAT
- Maximum number of reported cells	2 ~~cells~~
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	Not present

MEASUREMENT REPORT (Step 8)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1.
- Observed time difference to GSM cell	Check that the IE is present and that the reported value is reasonable
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 or 0 depending on the value of the previous inter-RAT cell id. (The value here shall be the one not chosen for the previous inter-RAT cell id).
- Observed time difference to GSM cell	Check that the IE is present and that the reported value is reasonable
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
-Inter-RAT event identity	Check that this is set to 3a
-Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 0.

8.4.1.33.5 Test requirement

The UE shall not send any measurement report between instants T1 and T2.

Event 3a shall be triggered in the UE (i.e.the transmission of the MEASUREMENT REPORT) about 0.64 s after instant T2.

Between instants T2 and T3, no MEASUREMENT REPORT message shall be received from the UE (since the hysteresis condition for triggering event 3a is not fulfilled).

No MEASUREMENT REPORT message shall be received from the UE after instant T4 (since the signal strength for cell 1 has not dropped under Threshold for event 3a-hysteresis).

8.4.1.34 Measurement Control and Report: Inter-RAT measurement, event 3b

8.4.1.34.1 Definition

8.4.1.34.2 Conformance requirement

~~1. When this event is ordered by UTRAN in a measurement control message the UE shall send a report when the estimated quality of the other system is below the value of the IE "Threshold other system" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains information specific for the other system.~~

2. If the IE "Inter-RAT cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received, at the position indicated by the IE "Inter-RAT cell id":
  - clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant";
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Inter-RAT cell id" is received:
      - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied";
    - if the IE "Inter-RAT cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and
  - mark the position as "occupied";

When event 3b is configured in the UE within a measurement, the UE shall:

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "required":

2> if equation 1 below has been fulfilled for a time period indicated by "time to trigger" for one or several GSM cells that match any of the BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement:

3> if the inter-RAT cell id of any of those GSM cell is not stored in the variable TRIGGERED_3B_EVENT:

4> store the inter-RAT cell ids of the GSM cells that triggered the event and that were not previously stored in the variable TRIGGERED_3B_EVENT into that variable;

4> send a measurement report with IEs set as below:

5> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3b", "CHOICE BSIC" to "verified BSIC" and "Inter-RAT cell id" to the GSM cells that triggered the event (worst one first);

5> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

2> if equation 2 below is fulfilled for a GSM cell whose inter-RAT cell id is stored in the variable TRIGGERED_3B_EVENT:

3> remove the inter-RAT cell id of that GSM cell from the variable TRIGGERED_3B_EVENT.

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "not required":

2> if equation 1 below has been fulfilled for a time period indicated by "time to trigger" for one or several of the BCCH ARFCNs considered in that inter-RAT measurement:

3> if any of those BCCH ARFCN is not stored into the variable TRIGGERED_3B_EVENT:

4> store the BCCH ARFCNs that triggered the event and that were not previously stored in the variable TRIGGERED_3B_EVENT into that variable;

4> send a measurement report with IEs set as below:

5> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3b", "CHOICE BSIC" to "non verified BSIC" and "BCCH ARFCN" to BCCH ARFCNs that triggered the event (worst one first);

5> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.;

2> if equation 2 below is fulfilled for a BCCH ARFCN that is stored in the variable TRIGGERED_3B_EVENT;

3> remove that BCCH ARFCN from the variable TRIGGERED_3B_EVENT.

Triggering condition:

Equation 1:

$$M_{Other\ \ RAT} + CIO_{Other\ \ RAT} \leq T_{Other\ \ RAT} - H_{3b} / 2$$

The variables in the formula are defined as follows:

$M_{Other\ RAT}$ is the measurement quantity for the cell of the other system.

$CIO_{Other\ RAT}$ is the cell individual offset for the cell of the other system.

$T_{Other\ RAT}$ is the absolute threshold that applies for the other system in that measurement.

H_{3b} is the hysteresis parameter for event 3b.

Leaving triggered state condition:

Equation 2:

$$M_{Other\ \ RAT} + CIO_{Other\ \ RAT} > T_{Other\ \ RAT} + H_{3b} / 2$$

The variables in the formula are defined as follows:

$M_{Other\ RAT}$ is the measurement quantity for the cell of the other system. $M_{Other\ RAT}$ is expressed in dBm.

$CIO_{Other\ RAT}$ is the cell individual offset for the cell of the other system.

$T_{Other\ RAT}$ is the absolute threshold that applies for the other system in that measurement.

H_{3b} is the hysteresis parameter for event 3b.

Reference

3GPP TS 25.331 clause 8.6.7.3, 14.3.1.2

8.4.1.34.3 Test Purpose

1 To confirm that the UE sends MEASUREMENT REPORT message if event 3b is configured, if the estimated quality of the other system is below a given threshold.

2 To confirm that the hysteresis and time to trigger behaviours for event 3b are correctly implemented. To confirm that the UE updates the list of inter-RAT cells it stores according to what is ordered in the MEASUREMENT CONTROL messages received from UTRAN.

8.4.1.34.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell and 3 GSM cells. The initial configurations of the 4 cells in the SS shall follow the values indicated in the column marked T0. The table is found in "Test procedure".

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test procedure

Table 8.4.1.34.4-1

Parameter	Unit	Cell 1 (GSM)		Cell 2 (GSM)		Cell 3 (GSM)	
		T0	T1	T0	T1	T0	T1
Test Channel	#	GSM Ch.1		GSM Ch.2		GSM Ch.3	
BCCH ARFCN	#	1		7		~~2~~39	
CELL identity	#	~~0~~1		~~1~~2		~~2~~3	
BSIC	#	BSIC 1		BSIC 2		BSIC 3	
RF Signal Level	dBm	-70	-90	-70	-70	-90	-90

The two tables above illustrate the downlink power to be applied for the two cells at various instants of the test execution. Column marked "T0" denotes the initial conditions, while column marked "T1" indicates the values to be applied subsequently.

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108. UTRA cell 1 is the only cell in the active set of the UE. If the UE requires compressed mode (refer ICS/IXIT), t~~T~~he SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters to the UE. Three compressed mode patterns are configured, according to the message specified below. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message to the UE, to set up inter-RAT measurements. Event 3b is set up in this message, and if the UE requires compressed mode (refer ICS/IXIT), compressed mode is activated. The monitored GSM cells at measurement establishment are GSM cells 1 and 2.

At instant T1, the RF signal strength for GSM cell 1 drops as described in table 8.4.1.34.4-1.

When the MEASUREMENT REPORT has been received by the SS, a MEASUREMENT CONTROL message is sent to the UE, to add GSM cell 3 to the monitored GSM cells.

A second MEASUREMENT REPORT triggered by event 3b shall be received shortly after by the SS. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 4.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS configures event 3b in the UE. If the UE requires compressed mode (refer ICS/IXIT), ~~C~~compressed mode is started.
5				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
6				SS re-adjusts the downlink transmission power settings according to columns "T1" in tables 8.4.1.34.4-1.
7	→		MEASUREMENT REPORT	After about 60 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 3b.
8	←		MEASUREMENT CONTROL	SS adds GSM cell 3 to the list of the monitored GSM cells.
9	→		MEASUREMENT REPORT	After about 60 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 3b.
10	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	12~~8~~
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	12
- T Reconfirm abort	Not Present
- TGPSI	3
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence	

configuration parameters	
- TGMP	GSM BSIC re-confirmation
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 01
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL(depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	5 s

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove all inter-RAT cells
-Remove all inter-RAT cells	(No Data)
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=2
- inter-RAT cell id	0
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	1
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not included
CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3b
- Threshold own system	Not included
- W	Not included
- Threshold other system	-80
- Hysteresis	2
- Time to Trigger	60 ms
- Reporting cell status	Report cells within active set or within virtual active set or of the other RAT
- Maximum number of reported cells	3 ~~cells~~
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	Not present
- Transmission gap pattern sequence (1 to <MaxTGPS>)	<MaxTGPS>=3
- TGPSI	1
- TGPS status flag	Activate~~active~~
- TGCFN	(Current CFN + (252 – TTI/10msec))mod 256
- TGPSI	2
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (254 – TTI/10msec))mod 256
- TGPSI	3
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (2506 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 if the previous inter-RAT cell id was set to 0 or to 0 if the previous cell if was set to 1.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
- Inter-RAT event identity	Check that this is set to 3b
- Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 0.

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Modify
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Not present
- Periodic Reporting / Event Trigger Reporting Mode	Not present
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove no inter-RAT cells
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=1
- inter-RAT cell id	Not present
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC3
- Band indicator	DCS 1800 band used
- BCCH ARFCN	2
- Cell for measurement	Not present
- inter-RAT measurement quantity	Not present
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3b
- Threshold own system	Not present
- W	Not present
- Threshold other system	-80
- Hysteresis	2
- Time to Trigger	60 ms
- Reporting cell status	Not present
Physical channel information elements	Not present

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for three GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0, 1 or 2
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 0, 1 or 2 and that this inter-RAT cell id is different from the previous inter-RAT cell id.
- Observed time difference to GSM cell	Check that the IE is not present
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 0, 1 or 2 and that this inter-RAT cell id is different from the two previous inter-RAT cell id.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
-Inter-RAT event identity	Check that this is set to 3b
-Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 2.

8.4.1.34.5 Test requirement

Between instants T0 and T1, the UE shall not send any MEASUREMENT REPORT message to the SS.

Event 3b shall be triggered in the UE (i.e. the transmission of the first MEASUREMENT REPORT message shall begin) about 60 ms after instant T1.

About 60 ms after the reception by the UE of the second MEASUREMENT CONTROL message, the UE shall begin to transmit the second MEASUREMENT REPORT message (since the signal strength for GSM cell 3 is below the threshold for triggering event 3b).

8.4.1.35 Measurement Control and Report: Inter-RAT measurement, event 3c

8.4.1.35.1 Definition

8.4.1.35.2 Conformance requirement

When event 3c is configured in the UE within a measurement, the UE shall:

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "required":

2> if equation 1 below has been fulfilled for a time period indicated by "time to trigger" for one or several GSM cells that match any of the BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement:

3> if the inter-RAT cell id of any of those GSM cell is not stored in the variable TRIGGERED_3C_EVENT:

4> store the Inter-RAT cell ids of the GSM cells that triggered the event and that were not previously stored in the variable TRIGGERED_3C_EVENT into that variable;

4> send a measurement report with IEs set as below:

5> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3c", "CHOICE BSIC" to "verified BSIC" and "Inter-RAT cell id" to the GSM cells that triggered the event (best one first);

5> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

2> if equation 2 below is fulfilled for a GSM cell whose inter-RAT cell id is stored in the variable TRIGGERED_3C_EVENT:

3> remove the inter-RAT cell id of that GSM cell from the variable TRIGGERED_3C_EVENT.

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "not required":

2> if equation 1 below has been fulfilled for a time period indicated by "time to trigger" for one or several of the BCCH ARFCNs considered in that inter-RAT measurement:

3> if any of those BCCH ARFCN is not stored into the variable TRIGGERED_3C_EVENT:

4> store the BCCH ARFCNs that triggered the event and that were not previously stored in the variable TRIGGERED_3C_EVENT into that variable;

4> send a measurement report with IEs set as below:

5> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3c", "CHOICE BSIC" to "non verified BSIC" and "BCCH ARFCN" to BCCH ARFCNs that triggered the event (best one first);

5> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

2> if equation 2 is fulfilled for a BCCH ARFCN that is stored in the variable TRIGGERED_3C_EVENT:

3> remove that BCCH ARFCN from the variable TRIGGERED_3C_EVENT.

Triggering condition:

Equation 1:

$$M_{Other\ \ RAT} + CIO_{Other\ \ RAT} \geq T_{Other\ \ RAT} + H_{3c}/2$$

The variables in the formula are defined as follows:

$M_{Other\ RAT}$ is the measurement quantity for the cell of the other system. $M_{Other\ RAT}$ is expressed in dBm.

$CIO_{Other\ RAT}$ is the cell individual offset for the cell of the other system.

$T_{Other\ RAT}$ is the absolute threshold that applies for the other system in that measurement.

H_{3c} is the hysteresis parameter for event 3c.

Leaving triggered state condition:

Equation 2:

$$M_{Other\ \ RAT} + CIO_{Other\ \ RAT} < T_{Other\ \ RAT} - H_{3c}/2$$

The variables in the formula are defined as follows:

$M_{Other\ RAT}$ is the measurement quantity for the cell of the other system. $M_{Other\ RAT}$ is expressed in dBm.

$CIO_{Other\ RAT}$ is the cell individual offset for the cell of the other system.

$T_{Other\ RAT}$ is the absolute threshold that applies for the other system in that measurement.

H_{3c} is the hysteresis parameter for event 3c.

~~When this event is ordered by UTRAN in a measurement control message the UE shall send a report when the estimated quality of the other system is above the value of the IE "Threshold other system" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains information specific for the other system. For the measurement, which triggered the MEASUREMENT REPORT message, the UE shall set the IE "measured results" to include measurements according to the IE "reporting quantity" of that measurement.~~

Reference

3GPP TS 25.331 clauses 14.3.1.3, 8.4.2.2.

8.4.1.35.3 Test Purpose

1 To confirm that the UE sends MEASUREMENT REPORT message if event 3c is configured, and if the quality of the other system becomes better than the given threshold for event 3c.

2 To confirm that no other UE MEASUREMENT REPORT message is sent by the UE for a cell that has already triggered event 3c as long as the hysteresis condition for triggering once again event 3c has not been fulfilled.

8.4.1.35.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell and 2 GSM cells. The initial configurations of the 4 cells in the SS shall follow the values indicated in the column marked T0. The table is found in "Test procedure".

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test procedure

Table 8.4.1.35.4-1

Parameter	Unit	Cell 1 (GSM)				Cell 2 (GSM)			
		T0	T1	T2	T3	T0		T1	
Test Channel	#	GSM Ch.1				GSM Ch.2			
BCCH ARFCN	#	1				7			
CELL identity	#	~~0~~1				~~1~~2			
BSIC	#	BSIC 1				BSIC 2			
RF Signal Level	dBm	-90	-80	-90	-80	-80	-80	-80	-80

The two tables above illustrate the downlink power to be applied for the two cells at various instants of the test execution. Column marked "T0" denotes the initial conditions, while column marked "T1", "T2" and "T3" indicate the values to be applied subsequently.

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108. UTRA cell 1 is the only cell in the active set of the UE. If the UE requires compressed mode (refer ICS/IXIT), t~~T~~he SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters to the UE. Three compressed mode patterns are configured, according to the message specified below. When the PHYSICAL

CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message to the UE, to set up inter-RAT measurements. Event 3c is set up in this message, and if the UE requires compressed mode (refer ICS/IXIT), compressed mode is activated.

At instant T1, the RF signal strength for GSM cell 1 increases as described in table 8.4.1.35.4-1.

At instant T2, the RF signal strength for GSM cell 2 drops as described in table 8.4.1.35.4-1, and at instant T3, it increases again to its previous level. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 4.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS configures event 3c in the UE. If the UE requires compressed mode (refer ICS/IXIT), cCompressed mode is started.
5				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
6				SS re-adjusts the downlink transmission power settings according to columns "T1" in tables 8.4.1.35.4-1.
7	→		MEASUREMENT REPORT	After about 100 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 3b.
8				SS re-adjusts the downlink transmission power settings according to columns "T2" in tables 8.4.1.35.4-1.
9				SS re-adjusts the downlink transmission power settings according to columns "T3" in tables 8.4.1.35.4-1 xxxx and xxxx.
10				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
11	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	12~~8~~
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	12
- T Reconfirm abort	Not Present
- TGPSI	3
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence	

configuration parameters	
- TGMP	GSM BSIC re-confirmation
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 01
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL(depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	5 s

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove all inter-RAT cells
-Remove all inter-RAT cells	(No Data)
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=2
- inter-RAT cell id	0
CHOICE Radio Access Technology	GSM
- Cell individual offset	10
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	1
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not included
CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3c
- Threshold own system	Not included
- W	Not included
- Threshold other system	-80
- Hysteresis	5
- Time to Trigger	100 ms
- Reporting cell status	Report cells within active set or within virtual active set or of the other RAT
- Maximum number of reported cells	2 ~~cells~~
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	Not present
- Transmission gap pattern sequence (1 to <MaxTGPS>)	<MaxTGPS>=3
- TGPSI	1
- TGPS status flag	Activate~~active~~
- TGCFN	(Current CFN + (252 – TTI/10msec))mod 256
- TGPSI	2
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (254 – TTI/10msec))mod 256
- TGPSI	3
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (2506 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 if the previous inter-RAT cell id was set to 0 or to 0 if the previous cell if was set to 1.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
-Inter-RAT event identity	Check that this is set to 3c
-Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 0.

8.4.1.35.4 Test requirement

About 100 ms after instant T1, since the cell individual offset for GSM cell 1 is +10 dB, event 3c shall be triggered in the UE, i.e the UE shall begin to transmit a MEASUREMENT REPORT to the SS. Note that GSM cell 2 has not triggered event 3c even though the RF signal strength for GSM cell 2 is the same as for cell 1, because the cell individual offset for GSM cell 2 is 0 dB.

After instant T2, no MEASUREMENT REPORT shall be received from the UE, since GSM cell 1 has already triggered event 3c, and since the RF signal strength has not dropped enough for it to trigger the event once again.

8.4.1.36 Measurement Control and Report: Inter-RAT measurement, event 3d

8.4.1.36.1 Definition

8.4.1.36.2 Conformance requirement

When event 3d is configured in the UE within a measurement, the UE shall:

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "required":

2> when the measurement is initiated or resumed:

3> store in the variable BEST_CELL_3D_EVENT the Inter-RAT cell id of the GSM cell that has the best measured quantity among the GSM cells that match any of the BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement

3> send a measurement report with IE set as below:

4> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3d", "CHOICE BSIC" to "verified BSIC" and "Inter-RAT cell id" to the GSM cell that is stored in the variable BEST_CELL_3D_EVENT;

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

2> if equation 1 has been fulfilled for a time period indicated by "time to trigger" for a GSM cell that is different from the one stored in BEST_CELL_3D_EVENT and that matches any of the BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement:

3> store the Inter-RAT cell id of that GSM cell in the variable BEST_CELL_3D_EVENT;

3> send a measurement report with IEs set as below:

4> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3d", "CHOICE BSIC" to "verified BSIC" and "Inter-RAT cell id" to the GSM cell is now stored in BEST_CELL_3D_EVENT;

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

1> if the other RAT is GSM, and if IE "BSIC verification required" is set to "not required":

2> when the measurement is initiated or resumed:

3> store in the variable BEST_CELL_3D_EVENT the BCCH ARFCN of the GSM cell that has the best measured quantity among the BCCH ARFCNs considered in that inter-RAT measurement;

3> send a measurement report with IE set as below:

4> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3d", "CHOICE BSIC" to "non verified BSIC" and "BCCH ARFCN" to the BCH ARFCN that is stored in the variable BEST_CELL_3D_EVENT;

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

2> if equation 1 below has been fulfilled for a time period indicated by "time to trigger" for one of the BCCH ARFCNs considered in that inter-RAT measurement and different from the one stored in BEST_CELL_3D_EVENT:

3> store the BCCH ARFCN of that GSM cell in the variable BEST_CELL_3D_EVENT;

3> send a measurement report with IEs set as below:

4> set in "inter-RAT measurement event result": "inter-RAT event identity" to "3d", "CHOICE BSIC" to "non verified BSIC" and "BCCH ARFCN" to the BCCH ARFCN that is now stored in the variable BEST_CELL_3D_EVENT;

4> set the IE "measured results" and the IE "additional measured results" according to TS 25.331 subclause 8.4.2.

Equation 1:

$$M_{New} \geq M_{Best} + H_{3d} / 2$$

The variables in the formula are defined as follows:

M_{New} is the measurement quantity for a GSM cell that is not stored in the variable BEST_CELL_3D.

M_{Best} is the measurement quantity for a GSM cell that is stored in the variable BEST_CELL_3D.

H_{3d} is the hysteresis parameter for event 3d.

~~If any of the quality estimates for the cells in the other system becomes better than the quality estimate for the currently best cell in the other system, and event 3d has been ordered by UTRAN then this event shall trigger a report to be sent from the UE when the hysteresis and time to trigger conditions is fulfilled. The corresponding report contains (at least) information the best cell in the other system.~~

Reference

3GPP TS 25.331 clause 14.3.1.4.

8.4.1.36.3 Test Purpose

1 To confirm that the UE sends MEASUREMENT REPORT message if event 3d is configured, and if the best cell changes in the other system. To confirm that no other UE MEASUREMENT REPORT message is sent by the UE for a cell that has already triggered event 3d as long as the hysteresis condition for triggering once again event 3d has not been fulfilled.

8.4.1.36.4 Method of test

Initial Condition

System simulator: 1 UTRAN FDD cell and 2 GSM cells. The initial configurations of the 4 cells in the SS shall follow the values indicated in the column marked T0. The table is found in "Test procedure".

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test procedure

Table 8.4.1.36.4-1

Parameter	Unit	Cell 1 (GSM)		Cell 2 (GSM)	
		T0	T2	T0	T1
Test Channel	#	GSM Ch.1		GSM Ch.2	
BCCH ARFCN	#	1		7	
CELL identity	#	~~0~~1		~~1~~2	
BSIC	#	BSIC 1		BSIC 2	
RF Signal Level	dBm	-70	-90	-90	-70

The two tables above illustrate the downlink power to be applied for the two cells at various instants of the test execution. Column marked "T0" denotes the initial conditions, while column marked "T1", "T2" and "T3" indicate the values to be applied subsequently.

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108. UTRA cell 1 is the only cell in the active set of the UE. If the UE requires compressed mode (refer ICS/IXIT), t~~T~~he SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters to the UE. Three compressed mode patterns are configured, according to the message specified below. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message to the UE, to set up inter-RAT measurements. Event 3d is set up in this message, and if the UE requires compressed mode (refer ICS/IXIT), compressed mode is activated.

At instant T1, the RF signal strength for GSM cell 1 increases while the RF signal strength for GSM cell 2 decreases as described in table 8.4.1.36.4-1.

A MEASUREMENT CONTROL is then sent to the UE that releases the inter-RAT measurement, and deactivates compressed mode. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 4.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Compressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS configures event 3d in the UE. If the UE requires compressed mode (refer ICS/IXIT), compressed mode is started.
5	→		MEASUREMENT REPORT	The UE sends a MEASUREMENT REPORT to UTRAN indicating which is the best GSM cells just after the initiation of the measurement
6				SS re-adjusts the downlink transmission power settings according to columns "T1" in tables 8.4.1.36.4-1.
7	→		MEASUREMENT REPORT	After about 200 ms, the UE sends a MEASUREMENT REPORT to SS triggered by event 3b.
8	←		MEASUREMENT CONTROL	SS releases the inter-RAT measurements, and, if the UE requires compressed mode (refer ICS/IXIT), deactivates compressed mode.
9				If the UE requires compressed mode (refer ICS/IXIT), SS checks that the UE has deactivated compressed mode.
10	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM Carrier RSSI Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	12~~8~~
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL(depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC identification
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL (depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	12
- T Reconfirm abort	Not Present
- TGPSI	3
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence	

configuration parameters	
- TGMP	GSM BSIC re-confirmation
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	8
- TGPL2	Not present
- RPP	Mode 01
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL(depends on UE's Measurement capability)
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	5 s

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark

Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove all inter-RAT cells
-Remove all inter-RAT cells	(No Data)
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=2
- inter-RAT cell id	Not present
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	Not present
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not included
CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3d
- Threshold own system	Not present
- W	Not present
- Threshold other system	Not present
- Hysteresis	5
- Time to Trigger	200 ms
- Reporting cell status	Report cells within active set or within virtual active set or of the other RAT
- Maximum number of reported cells	2 ~~cells~~
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	Not present
- Transmission gap pattern sequence (1 to <MaxTGPS>)	<MaxTGPS>=3
- TGPSI	1
- TGPS status flag	Activate~~active~~
- TGCFN	(Current CFN + (252 – TTI/10msec))mod 256
- TGPSI	2
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (254 – TTI/10msec))mod 256
- TGPSI	3
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (2506 – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 5)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 if the previous inter-RAT cell id was set to 0 or to 0 if the previous cell if was set to 1.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
- Inter-RAT event identity	Check that this is set to 3d
- Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 0.

MEASUREMENT REPORT (Step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 if the previous inter-RAT cell id was set to 0 or to 0 if the previous cell if was set to 1.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
- Inter-RAT event identity	Check that this is set to 3d
- Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 1.

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Release
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	(Current CFN + (256 – TTI/10msec))mod 256
- Transmission gap pattern sequence (1 to <MaxTGPS>)	<MaxTGPS>=3
- TGPSI	1
- TGPS status flag	~~Inactive~~Deactivate
- TGCFN	Not present
- TGPSI	2
- TGPS status flag	~~Inactive~~Deactivate
- TGCFN	Not present
- TGPSI	3
- TGPS status flag	~~Inactive~~Deactivate
- TGCFN	Not present

8.4.1.3~~6~~5.5~~4~~ Test requirement

Shortly after the UE has received the first MEASUREMENT CONTROL message it shall transmit a MEASUREMENT REPORT to the SS.

About 200 ms after instant T1, the UE shall begin to transmit a MEASUREMENT REPORT triggered by event 3d to the SS.

After receiving the second MEASUREMENT CONTROL message, the UE shall then stop running compressed mode.

8.4.1.40 Measurement Control and Report: Inter-RAT measurement, event 3C, in CELL_DCH state using sparse compressed mode pattern

8.4.1.40.1 Definition

8.4.1.40.2 Conformance requirement

1. Upon reception of a MEASUREMENT CONTROL message the UE shall perform actions specified in 3GPP TS 25.331 clause 8.6 unless otherwise specified below.

   The UE shall:

   - read the IE "Measurement command";
   - if the IE "measurement command" has the value "setup":
     - store this measurement in the variable MEASUREMENT_IDENTITY according to the IE "measurement identity", possibly overwriting the measurement previously stored with that identity;
     - for measurement types "inter-RAT measurement" or "inter-frequency measurement":
       - if, according to its measurement capabilities, the UE requires compressed mode to perform the measurements and a compressed mode pattern sequence with an appropriate measurement purpose is simultaneously activated by the IE "DPCH compressed mode status info"; or
       - if, according to its measurement capabilities, the UE does not require compressed mode to perform the measurements:

- begin measurements according to the stored control information for this measurement identity;

2. Event 3c: The estimated quality of other system is above a certain threshold. When this event is ordered by UTRAN in a measurement control message the UE shall send a report when the estimated quality of the other system is above the value of the IE "Threshold other system" and the hysteresis and time to trigger conditions are fulfilled. The corresponding report contains information specific for the other system.

Reference

3GPP TS 25.331 clause 8.4.1.3, 14.3.1.3.

8.4.1.40.3 Test Purpose

1. To verify that the UE performs Inter-RAT measurement using a sparse compressed mode pattern as specified in the MEASUREMENT CONTROL message.

2. To verify that the UE send MEASUREMENT REPORT message when event 3C is triggered, and if the quality of the other system becomes better than the given threshold for event 3c.

3. To confirm that no other UE MEASUREMENT REPORT message is sent by the UE for a cell that has already triggered event 3c as long as the hysteresis condition for triggering once again event 3c has not been fulfilled.

8.4.1.40.4 Method of test

Table 8.4.1.40.4.1 Sparse compressed mode pattern for Inter.RAT measurement

TGMP	TGCFN	TGPRC	TGSN	TGL1	TGL2	TGD	TGPL1	TGPL2	Comment
GSM carrier RSSI measurement	Note 1	Inf.	4	7	Not sent	0	12 ~~16~~	~~16~~	Set-up to monitor 12 GSM neighbours every second measurement period, i.e. every second 480ms period.
GSM Initial BSIC identification	Note 1	Inf.	~~48~~	7 ~~1~~ 4	Not sent	0	8 ~~2~~ 4	~~24~~	Equal to Pattern 6 in TS 25.133 table 8.7.
GSM BSIC re-confirmation	Note 1	Inf.	~~48~~	7 ~~1~~ 4	Not sent	0	8 ~~2~~ 4	~~24~~	Equal to Pattern 12 in TS 25.133 table 8.8.

NOTE 1: TGCFN can be found in the MEASUREMENT CONTROL message.

Initial Condition

System simulator: 1 UTRAN FDD cell and 2 GSM cells. The initial configurations of the 2 cells in the SS shall follow the values indicated in the column marked T0. The table is found in "Test procedure".

UE: CELL_DCH state, state 6-9 as specified in clause 7.4 of TS 34.108.

Related ICS/IXIT statements

- Compressed mode required yes/no

Test procedure

Table 8.4.1.40.4.2 Inter-RAT cell specific data

Parameter	Unit	Cell 1 (GSM)				Cell 2 (GSM)			
		T0	T1	T2	T3	T0	T1	T2	T3
Test Channel	#	GSM Ch.1				GSM Ch.2			
BCCH ARFCN	#	1				~~3~~7			
CELL identity	#	~~0~~1				~~1~~2			
BSIC	#	BSIC 1				BSIC 2			
RF Signal Level	dBm	-90	-80	-90	-80	-80	-80	-80	-80

GSM cell 3 to 12 as indicated in the a MEASUREMENT CONTROL message shall not be active in the test, i.e. no BCCH carrier shall be transmitted for GSM cell 3 to 12 in this test.

The table above illustrate the downlink power to be applied for the two cells at various instants of the test execution. Column marked "T0" denotes the initial conditions, while column marked "T1", "T2" and "T3" indicate the values to be applied subsequently.

The UE is initially in CELL_DCH, state 6-9 as specified in clause 7.4 of TS 34.108. UTRA cell 1 is the only cell in the active set of the UE. If the UE requires compressed mode (refer ICS/IXIT), t~~T~~he SS sends a PHYSICAL CHANNEL RECONFIGURATION message to the UE to configure the compressed mode pattern sequence parameters to the UE. Three compressed mode patterns are configured, according to the message specified below. When the PHYSICAL CHANNEL RECONFIGURATION COMPLETE is received from the UE, the SS sends a MEASUREMENT CONTROL message to the UE, to set up inter-RAT measurements on 12 GSM cells. Event 3c is set up in this message, and if the UE requires compressed mode (refer ICS/IXIT), compressed mode is activated.

At instant T1, the RF signal strength for GSM cell 1 increases as described in table 8.4.1.40.4.2, since the cell individual offset for GSM cell 1 is 10 dB, event 3c shall be triggered in the UE. A MEASUREMENT REPORT shall be sent to the SS. Note that GSM cell 2 has not triggered event 3c even though the RF signal strength for GSM cell 2 is the same as for cell 1, because the cell individual offset for GSM cell 2 is 0 dB.

At instant T2, the RF signal strength for GSM cell 1 drops as described in table 8.4.1.40.4.2, and at instant T3, it increases again to its previous level. No MEASUREMENT REPORT shall be received from the UE, since GSM cell 1 has already triggered event 3c, and since the RF signal strength has not dropped enough for it to trigger the event once again. SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_DCH state in the cell 1. If the UE does not require compressed mode (refer ICS/IXIT), then goto step 4.
2	←		PHYSICAL CHANNEL RECONFIGURATION	If the UE requires compressed mode (refer ICS/IXIT), cCompressed mode pattern sequence parameters are loaded to UE.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		MEASUREMENT CONTROL	SS configures event 3c in the UE. If the UE requires compressed mode (refer ICS/IXIT), cCompressed mode is started.
5				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
6				SS re-adjusts the downlink transmission power settings according to columns "T1" in table 8.4.1.40.4.2.
7	→		MEASUREMENT REPORT	After about 2 s, the UE sends a MEASUREMENT REPORT to SS triggered by event 3c.
8				SS re-adjusts the downlink transmission power settings according to columns "T2" in table 8.4.1.40.4.2.
9				SS re-adjusts the downlink transmission power settings according to columns "T3" in table 8.4.1.40.4.2.
10				SS waits for approximately 10 seconds and verifies that no MEASUREMENT REPORT messages are detected on uplink DCCH.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Content

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type in Annex A titled "Speech in CS", with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links - DPCH compressed mode info - TGPSI - TGPS Status Flag - TGCFN - Transmission gap pattern sequence configuration parameters - TGMP	 1 InactiveDeactivate Not present GSM Carrier RSSI Measurement

- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not present
- TGD	0
- TGPL1	12~~16~~
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	Not Present
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC identification
- TGPRC	Infinity
- TGSN	4~~8~~
- TGL1	7~~1~~4
- TGL2	Not present
- TGD	0
- TGPL1	8~~2~~4
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	21
- T Reconfirm abort	Not Present
- TGPSI	3
- TGPS Status Flag	~~Inactive~~Deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	
- TGMP	GSM BSIC re-confirmation
- TGPRC	Infinity
- TGSN	4~~8~~
- TGL1	7~~1~~4
- TGL2	Not present
- TGD	0
- TGPL1	8~~2~~4
- TGPL2	Not present
- RPP	Mode 0~~1~~
- ITP	Mode 0
CHOICE UL/DL Mode	UL and DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	SF/2
- Downlink frame type	A
- DeltaSIR1	1.0
- DeltaSIRAfter1	0.5

- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- N identify abort	Not Present
- T Reconfirm abort	4.8 s

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity	3
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged Mode RLC
- Periodic Reporting / Event Trigger Reporting Mode	Event triggered
Additional measurements list	Not Present
CHOICE measurement type	
- inter-RAT measurement	
- inter-RAT measurement object list	
CHOICE Inter-RAT Cell Removal	Remove all inter-RAT cells
-Remove all inter-RAT cells	(No Data)
New inter-RAT cells (1 to <MaxCellMeas>)	MaxCellMeas=12
- inter-RAT cell id	0
CHOICE Radio Access Technology	GSM
- Cell individual offset	10
- Cell selection and re-selection info	Not present
- BSIC	BSIC1
- Band indicator	DCS 1800 band used
- BCCH ARFCN	1
- inter-RAT cell id	1
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	3
- inter-RAT cell id	1
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC2
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- inter-RAT cell id	2
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC3
- Band indicator	DCS 1800 band used
- BCCH ARFCN	5
- inter-RAT cell id	3
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC4
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- inter-RAT cell id	4
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC5
- Band indicator	DCS 1800 band used
- BCCH ARFCN	9
- inter-RAT cell id	5
CHOICE Radio Access Technology	GSM
- Cell individual offset	0

- Cell selection and re-selection info	Not present
- BSIC	BSIC6
- Band indicator	DCS 1800 band used
- BCCH ARFCN	11
- inter-RAT cell id	6
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC7
- Band indicator	DCS 1800 band used
- BCCH ARFCN	13
- inter-RAT cell id	7
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC8
- Band indicator	DCS 1800 band used
- BCCH ARFCN	15
- inter-RAT cell id	8
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC9
- Band indicator	DCS 1800 band used
- BCCH ARFCN	17
- inter-RAT cell id	9
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC10
- Band indicator	DCS 1800 band used
- BCCH ARFCN	19
- inter-RAT cell id	10
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC11
- Band indicator	DCS 1800 band used
- BCCH ARFCN	21
- inter-RAT cell id	11
CHOICE Radio Access Technology	GSM
- Cell individual offset	0
- Cell selection and re-selection info	Not present
- BSIC	BSIC12
- Band indicator	DCS 1800 band used
- BCCH ARFCN	7
- Cell for measurement	Not present
- inter-RAT measurement quantity	
- Measurement quantity for UTRAN quality estimate	Not included
CHOICE system	GSM
- Measurement quantity	GSM carrier RSSI
- Filter coefficient	0
- BSIC verification required	required
- inter-RAT reporting quantity	
CHOICE system	GSM
- Observed time difference to to GSM cell reporting indicator	FALSE
- GSM carrier RSSI reporting indicator	TRUE
CHOICE report criteria	
- Inter-RAT measurements reporting criteria	
- Parameters required for each event (1 to<maxMeasEvent>)	<MaxMeasEvent>=1
- Inter-RAT event identity	3c
- Threshold own system	Not included
- W	Not included

- Threshold other system	-80
- Hysteresis	5
- Time to Trigger	100 ms
- Reporting cell status	Report cells within active set or within virtual active set or of the other RAT
- Maximum number of reported cells	2 ~~cells~~
Physical channel information elements	
- DPCH compressed mode status info	If the UE requires compressed mode (refer ICS/IXIT), this IE is present and contains the IEs as follows. If the UE does not require compressed mode (refer ICS/IXIT), this IE is not present.
- TGPS reconfiguration CFN	Not present
- Transmission gap pattern sequence (1 to <MaxTGPS>)	<MaxTGPS>=3
- TGPSI	1
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (25~~2~~6 ~~– 11~~ – TTI/10msec))mod 256
- TGPSI	2
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (254~~6 – 7~~ – TTI/10msec))mod 256
- TGPSI	3
- TGPS status flag	~~active~~Activate
- TGCFN	(Current CFN + (250~~6~~ – TTI/10msec))mod 256

MEASUREMENT REPORT (Step 7)

Information Element	Value/Remarks
Measurement identity	Check to see if set to 3
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-RAT measured results list"
- Inter-RAT measured result list	
- CHOICE system	GSM
- Measured GSM cells	Check that measurement results for two GSM cells are included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Check it is set to verified BSIC
- inter-RAT cell id	Check that it is set to either 0 or 1
- Observed time difference to GSM cell	Check that the IE is not included
- GSM carrier RSSI	Check that measurement result is reasonable
CHOICE BSIC	Verified BSIC
- inter-RAT cell id	Check that is set to 1 if the previous inter-RAT cell id was set to 0 or to 0 if the previous cell if was set to 1.
- Observed time difference to GSM cell	Check that the IE is not present
Measured results on RACH	Check that not present
Additional Measured results	Check that not present
Event results	Check that the IE is included
- CHOICE event result	Check that this is set to inter-RAT measurement event results
- Inter-RAT event identity	Check that this is set to 3c
- Cells to report (1 to <maxCellMeas>)	Check that <maxCellMeas> is set to 1
- CHOICE BSIC	Check that this is set to verified BSIC
- Inter-RAT cell id	Check that this is set to 0.

8.4.1.40.5 Test Requirement

About 2 s after instant T1, since the cell individual offset for GSM cell 1 is +10 dB, event 3c shall be triggered in the UE, i.e the UE shall begin to transmit a MEASUREMENT REPORT to the SS. Note that GSM cell 2 has not triggered

event 3c even though the RF signal strength for GSM cell 2 is the same as for cell 1, because the cell individual offset for GSM cell 2 is 0 dB.

After instant T2, no MEASUREMENT REPORT shall be received from the UE, since GSM cell 1 has already triggered event 3c, and since the RF signal strength has not dropped enough for it to trigger the event once again.

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3GPP TSG-T1/SIG Meeting #24 **Tdoc T1S-020524**
Yokohama, Japan, July 29th-31st, 2002

CR-Form-v5.1

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **282** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 REL-5; Introduction of test cases for additional reference configuration on S-CCPCH and PRACH
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-19
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ RAN WG2 agreed to introduce an additional reference configuration on S-CCPCH and PRACH for R99 and requested RAN WG1 to review the layer 1 parameters and to forward the CR including the agreed parameters to T WG1 so the reference configurations may be introduced in 34.108. This CR introduces the corresponding test cases for these additional reference configuration introduced by another CR. The LS from RAN2 can be found in T1-020439.

Summary of change: ⌘ Subclause 14.4.2a (NEW)

- This new clause introduces the test case for the new additional reference configuration on S-CCPCH: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH.
- Details added to new test cases 14.4.2a.1, 14.4.2a.2 and 14.4.2a.3

Test case 14.5.2 (NEW)

- This new clause introduces the test case for the new additional reference configuration on PRACH: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH
- This test case is marked as implicitely tested by 14.4.2a.1, 14.4.2a.2 and 14.4.2a.3.

Consequences if not approved: ⌘ No test case will be defined for the additional reference configuration introduced by another CR

Clauses affected:	⌘	14.4.2a, 14.5.2		
Other specs Affected:	⌘	[ ] Other core specifications [X] Test specifications [ ] O&M Specifications	⌘	TS 34.123-2
Other comments:	⌘	The existing system information definitions can be re- used for this test case, so there is no need for a change to clause 6.1 of TS 34.108.		

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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.

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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.

14.4 Combinations on SCCPCH

14.4.1 Stand-alone signalling RB for PCCH

Impicitely tested.

NOTE The stand-alone signalling radio bearer for PCCH in TS 34.108, clause 6.10.2.4.3.1 is used in RRC test case 8.1.2.2.

14.4.2 Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.2.

This radio bearer configuration is tested with three different SYSTEM INFORMATION (BCCH) configurations:

1. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.1.

   Two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

2. The contents of System Information Block type 5 as specified in TS 34.108, clause 6.1.3.

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

3. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.2.

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

14.4.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.2a.

This radio bearer configuration is tested with three different SYSTEM INFORMATION (BCCH) configurations:

1. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.1.

   Two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 14.4.2a.1.

2. The contents of System Information Block type 5 as specified in TS 34.108, clause 6.1.3.

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 14.4.2a.2.

3. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.2.

Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

This configuration is verified in test case 14.4.2a.3.

14.4.2a.1 One SCCPCH: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

14.4.2a.1.1 Conformance requirement

See 14.2.4.1.

14.4.2a.1.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.2a and 6.10.2.4.4.2 for the case when two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.4.2 (Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

14.4.2a.1.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.1.

See 14.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combination for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	**RB7+RB8+SRB (2x32 kbps on RACH)**
TFS	TF0, bits	1x168
	TF1, bits	1x360

Uplink TFCS:

TFCI	**RB7 + RB8**
UL_TFC0	TF0
UL_TFC1	TF1

Downlink TFS:

		SRBs	**RB7 + RB8 (2x32 kbps)**
TFS	TF0, bits	0x168	0x360
	TF1, bits	1x168	1x360
	TF2, bits	2x168	N/A

Downlink TFCS:

TFCI	(SRB, RB7+RB8)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: 312 bits RB8: No data
2	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: No data RB8: 312 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7 and RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size paramater has been set to the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit).

14.4.2a.1.4 Test Requirements

See 14.1.1 for definition of step 15

1. At step 15 the UE transmitted transport format shall be TF1 (1x360).
2. At step 15 the UE shall return
   - for sub test 1: an RLC SDU on RB7 having the same content as sent by SS
   - for sub test 2: an RLC SDU on RB8 having the same content as sent by SS

14.4.2a.2 Two SCCPCHs: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

14.4.2a.2.1 Conformance requirement

See 14.2.4.1.

14.4.2a.2.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.2.4.3.2 and 6.10.2.4.4.2 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.4.2 (Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

14.4.2a.2.3 Method of Test

The contents of System Information Block type 5 shall be as specified in TS 34.108, clause 6.1.3.

See 14.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combination for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	RB7 + RB8 (2x32 kbps on RACH)
TFS	TF0, bits	1x168
	TF1, bits	1x360

Uplink TFCS:

TFCI	RB7 + RB8
UL_TFC0	TF0
UL_TFC1	TF1

Downlink TFS:

		SRBs	RB7 + RB8 (2x32 kbps)
TFS	TF0, bits	0x168	0x360
	TF1, bits	1x168	1x360
	TF2, bits	2x168	N/A

Downlink TFCS:

TFCI	(SRB, RB7+RB8)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: 312 bits RB8: No data
2	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: No data RB8: 312 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7 and RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size paramater has been set to the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit).

14.4.2a.2.4 Test Requirements

See 14.1.1 for definition of step 15

1. At step 15 the UE transmitted transport format shall be TF1 (1x360).
2. At step 15 the UE shall return
   - for sub test 1: an RLC SDU on RB7 having the same content as sent by SS
   - for sub test 2: an RLC SDU on RB8 having the same content as sent by SS

14.4.2a.3 One SCCPCH/connected mode: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

14.4.2a.3.1 Conformance requirement

See 14.2.4.1.

14.4.2a.3.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.2.4.3.2 and 6.10.2.4.4.2 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.4.2 (Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

14.4.2a.3.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.2.

See 14.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combination for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	**RB7+RB8+SRB (2x32 kbps on RACH)**
TFS	TF0, bits	1x168
	TF1, bits	1x360

Uplink TFCS:

TFCI	**RB7 + RB8**
UL_TFC0	TF0
UL_TFC1	TF1

Downlink TFS:

		SRBs	**RB7 + RB8 (2x32 kbps)**
TFS	TF0, bits	0x168	0x360
	TF1, bits	1x168	1x360
	TF2, bits	2x168	N/A

Downlink TFCS:

TFCI	(SRB, RB7+RB8)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: 312 bits RB8: No data
2	DL_TFC3	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC1, UL_TFC0	RB7: 312 bits RB8: 312 bits	RB7: No data RB8: 312 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7 and RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size paramater has been set to the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit).

14.4.2a.3.4 Test Requirements

1. At step 15 the UE transmitted transport format shall be TF1 (1x360).
2. At step 15 the UE shall return
   - for sub test 1: an RLC SDU on RB7 having the same content as sent by SS
   - for sub test 2: an RLC SDU on RB8 having the same content as sent by SS

14.4.3 Interactive/Background 32 kbps RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.3.

The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1 are used in this test. One SCCPCH is used in this SYSTEM INFORMATION (BCCH) configuration. The SCCPCH carries the PCH, the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

14.4.4 RB for CTCH + SRB for CCCH +SRB for BCCH.

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.4.

The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.2. are used in this test. Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

14.5 Combinations on PRACH

14.5.1 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.4.1.

14.5.2 Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

The reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.4.2 is implicitely tested by the test cases 14.4.2a.1, 14.4.2a.2 and 14.4.2a.3.

3GPP TSG- T1 Meeting #16 **T1-020543**
Yokohama, Japan, July 29th- August 2nd, 2002

3GPP TSG-T1/SIG Meeting #24 **Tdoc T1S-020416**
Yokohama, Japan, 29th – 31th July 2002

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **283** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Removal of test cases for unidirectional streaming CS RABs above 64 kbps
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-06-27
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ It is not possible to set up a CS service for RABs above 64 kbps, thus is the reference radio bearers for the streaming unidirectional CS RABs having bit rates above 64 kbps as specified in 34.108 not possible to be used in live networks.

TS 27.001 chapter B.1.13 clarifies that 64 kbps is the maximum bit rate that can be specified for CS data services.

TS 24.008 chapter 10.5.112 specifies the coding of the Bearer Capability Information Element, with a maximum user rate value of 64 kbps.

Summary of change: ⌘ Marked following radio bearer test cases as void:

- 14.2.20 Streaming / unknown / UL:0 DL:128 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14.2.21 Streaming / unknown / UL:128 DL:0 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14.2.22 Streaming / unknown / UL:0 DL:384 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14.2.47 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14.2.48 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14.2.55 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH

Consequences if not approved:	⌘	Not relevant test cases specified in 34.123-1

Clauses affected:	⌘	14.2.20, 14.2.21, 14.2.22, 14.2.47, 14.2.48 and 14.2.55		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4 and REL-5		

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<Start of modified section>

14.2.20 VoidStreaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.20.1 Conformance requirement

See 14.2.4.1.

14.2.20.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.20.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 128 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink. For all sub-tests UL_TFC1 is used.

14.2.20.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS:

Uplink RLC TM RLC Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard Segmentation indication	 100ms FALSE
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

Uplink TFS:

	TFI	RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 320
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 2x320
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 4x320
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 8x320
5	DL_TFC5	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 16x320
NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 14.1.1 for test procedure.

14.2.20.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 where the first 320 bits have the same content as the RLC SDU sent by the SS.
- for sub-test 2 to 5: one or more RLC SDUs on RB5 where the first 320 bits have the same content as the RLC SDU sent by the SS.

14.2.21 VoidStreaming / unknown / UL:128 DL:0 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.21.1 Conformance requirement

See 14.2.4.1.

14.2.21.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.21.

To be able to test the uplink radio bearer using the UE loopback function for the reference radio bearer UL:64 DL: 0 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.2 (Streaming/unknown/DL:14.4 kbps) is used in downlink.

14.2.21.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS:

Uplink RLC TM RLC Segmentation indication	TRUE
Downlink RLC TM RLC Segmentation indication	TRUE

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF4, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Downlink TFS:

	TFI	RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 320	RB5: 576 (note 2)
2	DL_TFC1	UL_TFC2	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 640	RB5: 576 (note 3)
3	DL_TFC1	UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1280	RB5: 576 (note 4)
4	DL_TFC1	UL_TFC4	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 2560	RB5: 576 (note 5)
5	DL_TFC1	UL_TFC5	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 5120	RB5: 576 (note 6)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: SS is using a DL RLC SDU with 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return the first 320 bits of the test data.
NOTE 3: SS is using a DL RLC SDU size of 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return an RLC SDU repeating the received DL RLC SDU two times (truncating the last one to fit the UL RLC SDU size of 640 bits).
NOTE 4: SS is using a DL RLC SDU size of 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return an RLC SDU repeating the received DL RLC SDU three times (truncating the last one to fit the UL RLC SDU size of 1280 bits).
NOTE 5: SS is using a DL RLC SDU size of 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return an RLC SDU repeating the received DL RLC SDU five times (truncating the last one to fit the UL RLC SDU size of 2560 bits).
NOTE 6: SS is using a DL RLC SDU size of 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return an RLC SDU repeating the received DL RLC SDU nine times (truncating the last one to fit the UL RLC SDU size of 5120 bits).

See 14.1.1 for test procedure.

14.2.21.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x320).
   - for sub-test 2: RB5/TF2 (2x320).
   - for sub-test 3: RB5/TF3 (4x320).
   - for sub-test 4: RB5/TF4 (8x320).
   - for sub-test 5: RB5/TF5 (16x320).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as the first 320 bits of the DL RLC SDU sent by the SS.

- for sub-test 2: an RLC SDU on RB5 for which the first 576 bits are equal to the sent DL RLC SDU bit pattern and the remaining 64 bits are equal to the first 64 bits of the DL RLC SDU sent by the SS.
- for sub-test 3: an RLC SDU on RB5 for which the first 1152 bits are equal to the sent DL RLC SDU bit pattern repeated twice and the remaining 128 bits are equal to the first 128 of the sent DL RLC SDU.
- for sub-test 4: an RLC SDU on RB5 for which the first 2304 bits are equal to the sent DL RLC SDU bit pattern repeated four times and the remaining 256 bits are equal to the first 256 of the sent DL RLC SDU.
- for sub-test 5: an RLC SDU on RB5 for which the first 4608 bits are equal to the sent DL RLC SDU bit pattern repeated eight times and the remaining 512 bits are equal to the first 512 of the sent DL RLC SDU.

14.2.22 VoidStreaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.22.1 Conformance requirement

See 14.2.4.1.

14.2.22.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.22.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 384 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.22.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS:

Uplink RLC TM RLC Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard Segmentation indication	 100ms FALSE
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

Uplink TFS:

	TFI	RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	RB5 (384 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A
	TF6, bits	32x320	N/A
	TF7, bits	48x320	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF0, TF1)
DL_TFC9	(TF1, TF1)
DL_TFC10	(TF2, TF1)
DL_TFC11	(TF3, TF1)
DL_TFC12	(TF4, TF1)
DL_TFC13	(TF5, TF1)
DL_TFC14	(TF6, TF1)
DL_TFC15	(TF7, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 320
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 2x320
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2,	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 4x320
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 8x320

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
5	DL_TFC5	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 16x320
6	DL_TFC6	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 32x320
7	DL_TFC7	UL_TFC1	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 48x320
NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 14.1.1 for test procedure.

14.2.22.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 where the first 320 bits have the same content as the RLC SDU sent by the SS.
   - for sub-test 2 to 7: one or more RLC SDUs on RB5 where the first 320 bits have the same content as the RLC SDU sent by the SS.

<End of modified section>

<Start of next modified section>

14.2.47 VoidConversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.47.1 Conformance requirement

See 14.2.4.1.

14.2.47.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.47.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 128 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.47.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (14.4 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x320	0x148
	TF1, bits	1x39	1x103	1x60	1x320	1x148
	TF2, bits	1x81	N/A	N/A	2x320	N/A
	TF3, bits	N/A	N/A	N/A	4x320	N/A
	TF4, bits	N/A	N/A	N/A	8x320	N/A
	TF5, bits	N/A	N/A	N/A	16x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF0, TF1)
DL_TFC19	(TF1, TF0, TF0, TF0, TF1)
DL_TFC20	(TF2, TF1, TF1, TF0, TF1)
DL_TFC21	(TF0, TF0, TF0, TF1, TF1)
DL_TFC22	(TF1, TF0, TF0, TF1, TF1)
DL_TFC23	(TF2, TF1, TF1, TF1, TF1)
DL_TFC24	(TF0, TF0, TF0, TF2, TF1)
DL_TFC25	(TF1, TF0, TF0, TF2, TF1)
DL_TFC26	(TF2, TF1, TF1, TF2, TF1)
DL_TFC27	(TF0, TF0, TF0, TF3, TF1)
DL_TFC28	(TF1, TF0, TF0, TF3, TF1)
DL_TFC29	(TF2, TF1, TF1, TF3, TF1)
DL_TFC30	(TF0, TF0, TF0, TF4, TF1)
DL_TFC31	(TF1, TF0, TF0, TF4, TF1)
DL_TFC32	(TF2, TF1, TF1, TF4, TF1)
DL_TFC33	(TF0, TF0, TF0, TF5, TF1)
DL_TFC34	(TF1, TF0, TF0, TF5, TF1)
DL_TFC35	(TF2, TF1, TF1, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 320 (note 2)
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 320 (note 2)
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 320 (note 2)
6	DL_TFC6	UL_TFC3	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 640 (note 3)
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 640 (note 3)
8	DL_TFC8	UL_TFC5	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 640 (note 3)
9	DL_TFC9	UL_TFC3	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 1280 (note 4)
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 1280 (note 4)
11	DL_TFC11	UL_TFC5	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 1280 (note 4)
12	DL_TFC12	UL_TFC3	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 2560 (note 5)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
13	DL_TFC13	UL_TFC4	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 2560 (note 5)
14	DL_TFC14	UL_TFC5	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 2560 (note 5)
15	DL_TFC15	UL_TFC3	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 5120 (note 6)
16	DL_TFC16	UL_TFC4	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 5120 (note 6)
17	DL_TFC17	UL_TFC5	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 5120 (note 6)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB8: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return 1 RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB8: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB8: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB8: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 6: RB8: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.

See 14.1.1 for test procedure.

14.2.47.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1, 4, 7, 10, 13 and 16: RB5/TF1 (1x39).
   - for sub-test 2, 5, 8, 11, 14 and 17: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
3. At step 15 the UE shall return
   - for sub-test 3, 6, 9, 12 and 15: no data on RB5, RB6 and RB7.
   - for sub-test 1, 4, 7, 10, 13 and 16: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2, 5, 8, 11, 14 and 17: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.
   - for sub-test 1 to 2: no data on RB8.

- for sub-test 3 to 5: an RLC SDU on RB8 having the same content as sent by the SS.
- for sub-test 6 to 17: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

14.2.48 VoidConversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.48.1 Conformance requirement

See 14.2.4.1.

14.2.48.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.48.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 384 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.48.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (14.4 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x320	0x148
	TF1, bits	1x39	1x103	1x60	1x320	1x148
	TF2, bits	1x81	N/A	N/A	2x320	N/A
	TF3, bits	N/A	N/A	N/A	4x320	N/A
	TF4, bits	N/A	N/A	N/A	8x320	N/A
	TF5, bits	N/A	N/A	N/A	16x320	N/A
	TF6, bits	N/A	N/A	N/A	32x320	N/A
	TF7, bits	N/A	N/A	N/A	48x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF0, TF1)
DL_TFC25	(TF1, TF0, TF0, TF0, TF1)
DL_TFC26	(TF2, TF1, TF1, TF0, TF1)
DL_TFC27	(TF0, TF0, TF0, TF1, TF1)
DL_TFC28	(TF1, TF0, TF0, TF1, TF1)
DL_TFC29	(TF2, TF1, TF1, TF1, TF1)
DL_TFC30	(TF0, TF0, TF0, TF2, TF1)
DL_TFC31	(TF1, TF0, TF0, TF2, TF1)
DL_TFC32	(TF2, TF1, TF1, TF2, TF1)
DL_TFC33	(TF0, TF0, TF0, TF3, TF1)
DL_TFC34	(TF1, TF0, TF0, TF3, TF1)
DL_TFC35	(TF2, TF1, TF1, TF3, TF1)
DL_TFC36	(TF0, TF0, TF0, TF4, TF1)
DL_TFC37	(TF1, TF0, TF0, TF4, TF1)
DL_TFC38	(TF2, TF1, TF1, TF4, TF1)
DL_TFC39	(TF0, TF0, TF0, TF5, TF1)
DL_TFC40	(TF1, TF0, TF0, TF5, TF1)
DL_TFC41	(TF2, TF1, TF1, TF5, TF1)
DL_TFC42	(TF0, TF0, TF0, TF6, TF1)
DL_TFC43	(TF1, TF0, TF0, TF6, TF1)
DL_TFC44	(TF2, TF1, TF1, TF6, TF1)
DL_TFC45	(TF0, TF0, TF0, TF7, TF1)
DL_TFC46	(TF1, TF0, TF0, TF7, TF1)

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC47	(TF2, TF1, TF1, TF7, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 320 (note 2)
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 320 (note 2)
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 320 (note 2)
6	DL_TFC6	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 640 (note 3)
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 640 (note 3)
8	DL_TFC8	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 640 (note 3)
9	DL_TFC9	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 1280 (note 4)
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 1280 (note 4)
11	DL_TFC11	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 1280 (note 4)
12	DL_TFC12	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 2560 (note 5)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
13	DL_TFC13	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 2560 (note 5)
14	DL_TFC14	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 2560 (note 5)
15	DL_TFC15	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 5120 (note 6)
16	DL_TFC16	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 5120 (note 6)
17	DL_TFC17	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 5120 (note 6)
18	DL_TFC18	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 10240 (note 7)
19	DL_TFC19	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 10240 (note 7)
20	DL_TFC20	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 10240 (note 7)
21	DL_TFC21	UL_TFC3	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 15360 (note 8)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
22	DL_TFC22	UL_TFC4	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 15360 (note 8)
23	DL_TFC23	UL_TFC5	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 15360 (note 8)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB8: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return 1 RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB8: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB8: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB8: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 6: RB8: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 7: RB8: SS is using a DL RLC SDU size of 10240 bits as test data (=DL RLC PDU size for DL/TF6). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 8: RB8: SS is using a DL RLC SDU size of 15360 bits as test data (=DL RLC PDU size for DL/TF7). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.

See 14.1.1 for test procedure.

14.2.48.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1, 4, 7, 10, 13, 16, 19 and 22: RB5/TF1 (1x39).
   - for sub-test 2, 5, 8, 11, 14, 17, 20 and 23: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
3. At step 15 the UE shall return
   - for sub-test 3, 6, 9, 12, 15, 18 and 21: no data on RB5, RB6 and RB7.
   - for sub-test 1, 4, 7, 10, 13, 16, 19 and 22: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2, 5, 8, 11, 14, 17, 20 and 23: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.
   - for sub-test 1 to 2: no data on RB8.
   - for sub-test 3 to 5: an RLC SDU on RB8 having the same content as sent by the SS.
   - for sub-test 6 to 23: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

<End of modified section>

<Start of next modified section>

14.2.55 VoidInteractive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.55.1 Conformance requirement

See 14.2.4.1.

14.2.55.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.55.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 64 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.55.3 Method of test

Uplink TFS:

	TFI	RB5 (I/B 64 kbps)	RB6 (Str. 14.4 kbps)	DCCH
TFS	TF0, bits	0x336	0x576	0x148
	TF1, bits	1x336	1x576	1x148
	TF2, bits	2x336	N/A	N/A
	TF3, bits	3x336	N/A	N/A
	TF4, bits	4x336	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF0, TF0)
UL_TFC3	(TF3, TF0, TF0)
UL_TFC4	(TF4, TF0, TF0)
UL_TFC5	(TF0, TF1, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF2, TF1, TF0)
UL_TFC8	(TF3, TF1, TF0)
UL_TFC9	(TF4, TF1, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF1, TF0, TF1)
UL_TFC12	(TF2, TF0, TF1)
UL_TFC13	(TF3, TF0, TF1)
UL_TFC14	(TF4, TF0, TF1)
UL_TFC15	(TF0, TF1, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF2, TF1, TF1)
UL_TFC18	(TF3, TF1, TF1)
UL_TFC19	(TF4, TF1, TF1)

Downlink TFS:

	TFI	RB5 (I/B 128 kbps)	RB6 (Str. 128 kbps)	DCCH
TFS	TF0, bits	0x336	0x320	0x148
	TF1, bits	1x336	1x320	1x148
	TF2, bits	2x336	2x320	N/A
	TF3, bits	4x336	4x320	N/A
	TF4, bits	8x336	8x320	N/A
	TF5, bits	N/A	16x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF0, TF0)
DL_TFC3	(TF3, TF0, TF0)
DL_TFC4	(TF4, TF0, TF0)
DL_TFC5	(TF0, TF1, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF2, TF1, TF0)
DL_TFC8	(TF3, TF1, TF0)
DL_TFC9	(TF4, TF1, TF0)
DL_TFC10	(TF0, TF2, TF0)
DL_TFC11	(TF1, TF2, TF0)
DL_TFC12	(TF2, TF2, TF0)
DL_TFC13	(TF3, TF2, TF0)
DL_TFC14	(TF4, TF2, TF0)
DL_TFC15	(TF0, TF3, TF0)
DL_TFC16	(TF1, TF3, TF0)
DL_TFC17	(TF2, TF3, TF0)
DL_TFC18	(TF3, TF3, TF0)
DL_TFC19	(TF4, TF3, TF0)
DL_TFC20	(TF0, TF4, TF0)
DL_TFC21	(TF1, TF4, TF0)
DL_TFC22	(TF2, TF4, TF0)
DL_TFC23	(TF3, TF4, TF0)
DL_TFC24	(TF4, TF4, TF0)
DL_TFC25	(TF0, TF5, TF0)
DL_TFC26	(TF1, TF5, TF0)
DL_TFC27	(TF2, TF5, TF0)
DL_TFC28	(TF3, TF5, TF0)
DL_TFC29	(TF4, TF5, TF0)
DL_TFC30	(TF0, TF0, TF1)
DL_TFC31	(TF1, TF0, TF1)
DL_TFC32	(TF2, TF0, TF1)
DL_TFC33	(TF3, TF0, TF1)
DL_TFC34	(TF4, TF0, TF1)
DL_TFC35	(TF0, TF1, TF1)
DL_TFC36	(TF1, TF1, TF1)
DL_TFC37	(TF2, TF1, TF1)
DL_TFC38	(TF3, TF1, TF1)
DL_TFC39	(TF4, TF1, TF1)
DL_TFC40	(TF0, TF2, TF1)
DL_TFC41	(TF1, TF2, TF1)
DL_TFC42	(TF2, TF2, TF1)
DL_TFC43	(TF3, TF2, TF1)
DL_TFC44	(TF4, TF2, TF1)
DL_TFC45	(TF0, TF3, TF1)
DL_TFC46	(TF1, TF3, TF1)
DL_TFC47	(TF2, TF3, TF1)
DL_TFC48	(TF3, TF3, TF1)
DL_TFC49	(TF4, TF3, TF1)
DL_TFC50	(TF0, TF4, TF1)
DL_TFC51	(TF1, TF4, TF1)
DL_TFC52	(TF2, TF4, TF1)
DL_TFC53	(TF3, TF4, TF1)
DL_TFC54	(TF4, TF4, TF1)
DL_TFC55	(TF0, TF5, TF1)
DL_TFC56	(TF1, TF5, TF1)
DL_TFC57	(TF2, TF5, TF1)
DL_TFC58	(TF3, TF5, TF1)
DL_TFC59	(TF4, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 312 RB6: 576	RB5: 312 RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 632 RB6: 576	RB5: 632 RB6: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 1272 RB6: 576	RB5: 1272 RB6: No data
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 2552 RB6: 576	RB5: 2552 RB6: No data
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 320 (note 2)
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 320 (note 2)
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 320 (note 2)
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 1272 RB6: 576	RB5: 1272 RB6: 320 (note 2)
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 2552 RB6: 576	RB5: 2552 RB6: 320 (note 2)
10	DL_TFC10	UL_TFC5	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 640 (note 3)
11	DL_TFC11	UL_TFC6	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 640 (note 3)
12	DL_TFC12	UL_TFC7	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 640 (note 3)
13	DL_TFC13	UL_TFC8	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 1272 RB6: 576	RB5: 1272 RB6: 640 (note 3)
14	DL_TFC14	UL_TFC9	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 2552 RB6: 576	RB5: 2552 RB6: 640 (note 3)
15	DL_TFC15	UL_TFC5	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 1280 (note 4)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
16	DL_TFC16	UL_TFC6	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 1280 (note 4)
17	DL_TFC17	UL_TFC7	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 1280 (note 4)
18	DL_TFC18	UL_TFC8	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 1272 RB6: 576	RB5: 1272 RB6: 1280 (note 4)
19	DL_TFC19	UL_TFC9	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 2552 RB6: 576	RB5: 2552 RB6: 1280 (note 4)
20	DL_TFC20	UL_TFC5	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5 UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 2560 (note 5)
21	DL_TFC21	UL_TFC6	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 2560 (note 5)
22	DL_TFC22	UL_TFC7	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 2560 (note 5)
23	DL_TFC23	UL_TFC8	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 1272 RB6: 576	RB5: 1272 RB6: 2560 (note 5)
24	DL_TFC24	UL_TFC9	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 2552 RB6: 576	RB5: 2552 RB6: 2560 (note 5)
25	DL_TFC20	UL_TFC5	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 5120 (note 6)
26	DL_TFC21	UL_TFC6	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6 UL_TFC10, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 5120 (note 6)
27	DL_TFC22	UL_TFC7	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 5120 (note 6)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
28	DL_TFC23	UL_TFC8	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 1272 RB6: 576	RB5: 1272 RB6: 5120 (note 6)
29	DL_TFC24	UL_TFC9	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 2552 RB6: 576	RB5: 2552 RB6: 5120 (note 6)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB6: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return one RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB6: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB6: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB6: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 6: RB6: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU. from the received RLC PDU.

See 14.1.1 for test procedure.

14.2.55.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1, 6, 11, 16, 21 and 26: RB5/TF1 (1x336).
   - for sub-test 2, 7, 12, 17, 22 and 27: RB5/TF1 (2x336).
   - for sub-test 3, 8, 13, 18, 23 and 28: RB5/TF1 (3x336).
   - for sub-test 4, 9, 14, 19, 24 and 29: RB5/TF1 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 26, 27, 28 and 29: an RLC SDU on RB5 having the same content as sent by the SS.
   - for sub-test 5, 10, 15, 20 and 25: no data shall be received on RB5.
   - for sub-test 1, 2, 3 and 4: no data shall be received on RB6.
   - for sub-test 5 to 9: an RLC SDU on RB6 having the same content as sent by the SS.
   - for sub-test 10 to 29: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

<End of modified section>

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29th July – 1st August 2002

Tdoc T1-020547

3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29th – 31th July 2002

Tdoc T1S-020477

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **286** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to package 3 RB test cases 14.2.43.1, 14.2.49.1 and 14.2.51.1.
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-12
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ Update of package 3 test cases according to radio bearer test method for testing multiple RBs and simultaneous signalling

Summary of change: ⌘

Common changes to 14.2.43.1, 14.2.49.1 and 14.2.51.1:

- Changed reference to test procedure in 14.1.2.
- In sub-test table changed the Downlink and Uplink TFCS under test to also specify the TFC with signalling.
- In sub-test table changed the column “Restricted UL TFCIs” to specify all possiple TFCIs which can happen during the test.
- Update of test requirement according to changes made to the different sub-tests.

Specific changes to test case 14.2.43.1:

For the PS DL:384/UL:64 kbps radio bearer (RB8) the downlink TTI is 10ms while the uplink TTI is 20ms. As the SS will send one DL SDU every 10 ms then the UE test loop function will return 2 UL SDUs per uplink TTI.

UL RLC SDU size is chosen to minimise buffering in the UE, i.e. if possible then UL RLC SDU size is chosen such that 2 SDUs will be transmitted per uplink 20 ms TTI. However, for sub-tests using the TF1 (1x336) and TF3 (3x336) uplink transport format then this is not possible without requiring that UE performs concatenation of SDUs. As concatenation is not a UE requirement then the UL RLC SDU size has for these sub-tests been chosen such that one SDU will be returned per uplink TTI. For these cases the uplink transmission window size need to be considered to avoid UE transmission buffer overflow due to the buffering of the SDUs returned by UE test loop function but not possible for the UE to return in uplink.

Consequences if not approved:	⌘	Not correct RB test cases Testing of multi radio bearer configuration and simultaneous signalling not possible.

Clauses affected:	⌘	14.2.43.1, 14.2.49.1 and 14.2.51.1		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4 and REL-5		

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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.

<Start of modified section>

14.2.43.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB / 10 ms TTI

14.2.43.1.1 Conformance requirement

See 14.2.4.1.

14.2.43.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.43 for the downlink 10 ms TTI case.

14.2.43.1.3 Method of test

See 14.1.2 for test procedure.

For the PS DL:384/UL:64 kbps radio bearer the downlink TTI is 10ms while the uplink TTI is 20ms. As the SS will send one DL SDU every 10 ms then the UE test loop function will return 2 UL SDUs per uplink TTI. To not cause uplink transmission buffer overflow then the UL RLC SDU size should be chosen such that the UE will transmit 2 RLC SDUs per uplink TTI. For the case when the transport format under test does not allow for 2 SDUs to fit into the transport format size without requiring concatenation then the UL RLC SDU size shall be chosen such that one SDU is returned per uplink TTI.

The following RLC parameter value is used in the RADIO BEARER SETUP message used to setup the PS DL:384/UL:64 kbps radio bearer:

Uplink RLC Transmission window size	512

NOTE The transmission window size value have been chosen to avoid that UE transmission buffer becomes full during the test.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (384 kbps, 10 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF0, TF1)
DL_TFC19	(TF1, TF0, TF0, TF0, TF1)
DL_TFC20	(TF2, TF1, TF1, TF0, TF1)
DL_TFC21	(TF0, TF0, TF0, TF1, TF1)
DL_TFC22	(TF1, TF0, TF0, TF1, TF1)
DL_TFC23	(TF2, TF1, TF1, TF1, TF1)
DL_TFC24	(TF0, TF0, TF0, TF2, TF1)
DL_TFC25	(TF1, TF0, TF0, TF2, TF1)
DL_TFC26	(TF2, TF1, TF1, TF2, TF1)
DL_TFC27	(TF0, TF0, TF0, TF3, TF1)
DL_TFC28	(TF1, TF0, TF0, TF3, TF1)
DL_TFC29	(TF2, TF1, TF1, TF3, TF1)
DL_TFC30	(TF0, TF0, TF0, TF4, TF1)
DL_TFC31	(TF1, TF0, TF0, TF4, TF1)
DL_TFC32	(TF2, TF1, TF1, TF4, TF1)
DL_TFC33	(TF0, TF0, TF0, TF5, TF1)
DL_TFC34	(TF1, TF0, TF0, TF5, TF1)
DL_TFC35	(TF2, TF1, TF1, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC19	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC20	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC21	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312 (note 2)	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4, DL_TFC22	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312 (note 2)	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5 , DL_TFC23	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312 (note 2)	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	DL_TFC6 , DL_TFC24	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~ (note 3)	RB5: No data RB6: No data RB7: No data RB8: 632
7	DL_TFC7, DL_TFC25	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~ (note 3)	RB5: 39 RB6: No data RB7: No data RB8: 632
8	DL_TFC8, DL_TFC26	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 312~~632~~ (note 3)	RB5: 81 RB6: 103 RB7: 60 RB8: 632
9	DL_TFC9, DL_TFC27	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1272 (note 2)	RB5: No data RB6: No data RB7: No data RB8: 1272

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
10	DL_TFC10, DL_TFC28	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1272 (note 2)	RB5: 39 RB6: No data RB7: No data RB8: 1272
11	DL_TFC11, DL_TFC29	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1272 (note 2)	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
12	DL_TFC12, DL_TFC30	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~2552~~ (note 3)	RB5: No data RB6: No data RB7: No data RB8: 2552
13	DL_TFC13, DL_TFC31	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~2552~~ (note 3)	RB5: 39 RB6: No data RB7: No data RB8: 2552
14	DL_TFC14, DL_TFC32	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 632~~2552~~ (note 3)	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
15	DL_TFC15, DL_TFC33	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~3832~~ (note 3)	RB5: No data RB6: No data RB7: No data RB8: 3832
16	DL_TFC16, DL_TFC34	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC18, , UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~3832~~ (note 3)	RB5: 39 RB6: No data RB7: No data RB8: 3832
17	DL_TFC17, DL_TFC35	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 632~~3832~~ (note 3)	RB5: 81 RB6: 103 RB7: 60 RB8: 3832

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). NOTE 2: RB8 (TF1/TF3): For sub-tests where uplink transport format TF1 (1x336) or TF3 (3x336) are used then no adoptation to the difference in downlink TTI (10 ms) and uplink TTI (20ms) is possible as this would require the UE to concatenate 2 SDUs into one PDU for TF1; or into three PDUs for TF3. For these sub-tests the UL RLC SDU size is set equal to the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit). NOTE 3: RB8 (TF2/TF4): For sub-tests where uplink transport formats TF2 (2x336) or TF4 (4x336) is used then to adopt to the difference in downlink TTI (10 ms) and uplink TTI (20ms) the UL RLC SDU size has been chosen such that 2 SDUs will be returned per uplink TTI. I.e. the UL RLC SDU size is set equal to half the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.43.1.4 Test requirements

See 14.1.2~~1~~ for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.~~At step 15 the UE transmitted transport format shall be~~

   ~~- for sub-test 1: RB5/TF1 (1x39).~~

   ~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~- for sub-test 3: RB8/TF1 (1x336)~~

   ~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

   ~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

   ~~- for sub-test 6: RB8/TF2 (2x336)~~

   ~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

   ~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

   ~~- for sub-test 9: RB8/TF3 (3x336)~~

   ~~- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).~~

   ~~- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).~~

   ~~- for sub-test 12 and 15: RB8/TF4 (4x336)~~

   ~~- for sub-test 13 and 16: RB5/TF1 (1x39) and RB8/TF4 (4x336).~~

   ~~- for sub-test 14 and 17: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).~~

3. At step 15 a and step 15b the UE shall return

   - for sub-test 1: ~~an~~ RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: ~~an~~ RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.
   - for sub-test 3~~, 6, 9, 12 and 15~~: ~~an~~ RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4~~, 7, 10, 13 and 16~~: ~~an~~ RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

- for sub-test 5~~, 8, 11, 14, and 17~~: ~~an~~ RLC SDUs on RB5, RB6, RB7 and RB8 having the same content as sent by the SS.

- for sub-test 6: RLC SDUs on RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 7: RLC SDUs on RB5 having the same content as sent by the SS; RLC SDUs on RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 8: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and RLC SDUs on RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink.

- for sub-test 9: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 10: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

- for sub-test 11: RLC SDUs on RB5, RB6, RB7 and RB8 having the same content as sent by the SS.

- for sub-test 12: RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 13: RLC SDUs on RB5 having the same content as sent by the SS; RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 14: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink.

- for sub-test 15: RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 16: RLC SDUs on RB5 having the same content as sent by the SS; RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 17: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the the SS; and RLC SDUs on RB8 having the first 632 bits equal to the content of the test data sent by the SS in downlink.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.49.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI

14.2.49.1.1 Conformance requirement

See 14.2.4.1.

14.2.49.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.49 for the 20 ms TTI case.

14.2.49.1.3 Method of test

See 14.1.2 for test procedure.

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB8):

Uplink RLC TM RLC Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard Segmentation indication	 100ms FALSE
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x640	0x148
	TF1, bits	1x39	1x103	1x60	2x640	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x640	0x148
	TF1, bits	1x39	1x103	1x60	2x640	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC7	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC8	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 640	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC9	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: No data RB6: No data RB7: No data RB8: 2x640
4	DL_TFC4, DL_TFC10	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: 39 RB6: No data RB7: No data RB8: 2x640
5	DL_TFC5, DL_TFC11	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 640	RB5: 81 RB6: 103 RB7: 60 RB8: 2x640
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 14.1.1 for test procedure.

14.2.49.1.4 Test requirements

See 14.1.2~~1~~ for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.~~At step 15 the UE transmitted transport format shall be~~

   ~~- for sub-test 1: RB5/TF1 (1x39).~~

   ~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~- for sub-test 3: RB8/TF1 (2x640)~~

   ~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (2x640).~~

   ~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (2x640).~~

3. At step 15a and step 15b the UE shall return

   - for sub-test 1: ~~an~~ RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: ~~an~~ RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.

   - for sub-test 3: ~~two~~ RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4: ~~an~~ RLC SDUs on RB5 and ~~two RLC SDUs on~~ RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

- for sub-test 5: ~~an~~ RLC SDUs on RB5, RB6, ~~and~~ RB7~~;~~ and ~~two RLC SDUs on~~ RB8 having the same content as sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.51.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:64 DL:64 kbps / PS RAB

14.2.51.1.1 Conformance requirement

See 14.2.4.1.

14.2.51.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51 for the 20 ms TTI case.

14.2.51.1.3 Method of test

See 14.1.2 for test procedure.

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps, 20 ms TTI)**	**RB6 (I/B 64 kbps, 20 ms TTI)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps, 20 ms TTI)	RB6 (I/B 64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC11	UL_TFC1, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, UL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC3, UL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 952	RB5: No data RB6: 952
4	DL_TFC4, DL_TFC14	UL_TFC4, UL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: 1272	RB5: No data RB6: 1272
5	DL_TFC5, DL_TFC15	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 2x640 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 640 RB6: 312	RB5: 2x640 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 2x640 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 640 RB6: 952	RB5: 2x640 RB6: 952
9	DL_TFC9, DL_TFC19	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: 1272	RB5: 2x640 RB6: 1272
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.51.1.4 Test requirements

See 14.1.2~~1~~ for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.~~At step 15 the UE transmitted transport format shall be~~

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (3x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (4x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (2x640)~~
3. At step 15a and step 15b the UE shall return

   - for sub-test 1, 2, 3, 4: ~~an~~ RLC SDUs on RB6 having the same content as sent by the SS; and no data shall be received on RB5.
   - for sub-test 5: ~~two~~ RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6.
   - for sub-test 6, 7, 8 and 9: ~~two~~ RLC SDUs on RB5 and ~~one RLC SDU on~~ RB6 having the same content as sent by the SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29th July –1st August 2002

Tdoc T1-020548

3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29th – 31th July 2002

Tdoc T1S-020478

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **287** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Addition of details for package 3 RB test cases
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-30
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ Details for package 3 radio berarer test cases not defined.

Summary of change: ⌘ **Changes introduced in T1S-020478 (revision of T1S-020420):**

- Revised new test cases 14.2.38g (sub-tests 8 and 14) and 14.2.38h (sub-tests 13, 14, 15, 17, 18 and 19).

Details for following package 3 radio bearer test cases have been defined:

- 14.2.4a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.38f Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.38g Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.38h Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.38i Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
- 14.2.38j Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64

		DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.
Consequences if not approved:	⌘	Details of test cases not defined

Clauses affected:	⌘	14.2.4a, 14.2.23b, 14.2.38f, 14.2.38g, 14.2.38h, 14.2.38i and 14.2.38j.		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4 and REL-5		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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>

14.2.4a Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.4a.1 Conformance requirement

See clause 14.2.4.1.

14.2.4a.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.4a.

14.2.4a.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x148
	TF1, bits	1x39	1x53	1x60	1x148
	TF2, bits	1x42	1x63	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0, TF0)
UL_TFC3	(TF3, TF2, TF0, TF0)
UL_TFC4	(TF4, TF3, TF0, TF0)
UL_TFC5	(TF5, TF4, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF0, TF1)
UL_TFC9	(TF3, TF2, TF0, TF1)
UL_TFC10	(TF4, TF3, TF0, TF1)
UL_TFC11	(TF5, TF4, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x53	1x60	1x148
	TF2, bits	1x42	1x63	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0, TF0)
DL_TFC3	(TF3, TF2, TF0, TF0)
DL_TFC4	(TF4, TF3, TF0, TF0)
DL_TFC5	(TF5, TF4, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF0, TF1)
DL_TFC9	(TF3, TF2, TF0, TF1)
DL_TFC10	(TF4, TF3, TF0, TF1)
DL_TFC11	(TF5, TF4, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 bits RB6: 103 bits RB7: 60 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 42 bits RB6: 53 bits RB7: 60 bits	RB5: 42 bits RB6: 53 bits RB7: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 55 bits RB6: 63 bits RB7: 60 bits	RB5: 55 bits RB6: 63 bits RB7: No data
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 75 bits RB6: 84 bits RB7: 60 bits	RB5: 75 bits RB6: 84 bits RB7: No data
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 bits RB6: 103 bits RB7: 60 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 14.1.1 for test procedure.

14.2.4a.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x42) and RB6/TF1 (1x53)
   - for sub-test 3: RB5/TF3 (1x55) and RB6/TF2 (1x63)
   - for sub-test 4: RB5/TF4 (1x75) and RB6/TF3 (1x84)
   - for sub-test 5: RB5/TF5 (1x81), RB6/TF4 (1x103) and RB7/TF1 (1x60)

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 or RB7.

   - for sub-test 2,3 and 4: an RLC SDU on RB5 and RB6 having the same content as sent by SS; and no data shall be received on RB7.

   - for sub-test 5: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by SS.

<End modified data>

<Start of next modified section>

14.2.23b Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.23b.1 Conformance requirement

See clause 14.2.4.1.

14.2.23b.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23b.

14.2.23b.3 Method of test

Uplink TFS:

	TFI	RB5 (16 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, UL_TFC0 DL_TFC3,UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 312	RB5: 312
2	DL_TFC2	UL_TFC2	DL_TFC0, UL_TFC0 DL_TFC3 ,UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 632	RB5: 632
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB5: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

See 14.1.1 for test procedure.

14.2.23b.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send a RADIO BEARER SETUP COMPLETE message.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
3. At step 15 the UE shall return
   - for sub-test 1 and 2: an RLC SDU on RB5 having the same content as sent by the SS.

<End modified data>

<Start of next modified section>

14.2.38f Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.38f.1 Conformance requirement

See clause 14.2.4.1.

14.2.38f.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38f.

14.2.38f.3 Method of test

See clause 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (8 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,RB8,DCCH)
UL_TFC0	(TF0,TF0,TF0,TF0,TF0)
UL_TFC1	(TF1,TF0,TF0,TF0,TF0)
UL_TFC2	(TF2,TF1,TF0,TF0,TF0)
UL_TFC3	(TF3,TF2,TF0,TF0,TF0)
UL_TFC4	(TF4,TF3,TF0,TF0,TF0)
UL_TFC5	(TF5,TF4,TF1,TF0,TF0)
UL_TFC6	(TF0,TF0,TF0,TF1,TF0)
UL_TFC7	(TF1,TF0,TF0,TF1,TF0)
UL_TFC8	(TF2,TF1,TF0,TF1,TF0)
UL_TFC9	(TF3,TF2,TF0,TF1,TF0)
UL_TFC10	(TF4,TF3,TF0,TF1,TF0)
UL_TFC11	(TF5,TF4,TF1,TF1,TF0)
UL_TFC12	(TF0,TF0,TF0,TF0,TF1)
UL_TFC13	(TF1,TF0,TF0,TF0,TF1)
UL_TFC14	(TF2,TF1,TF0,TF0,TF1)
UL_TFC15	(TF3,TF2,TF0,TF0,TF1)
UL_TFC16	(TF4,TF3,TF0,TF0,TF1)
UL_TFC17	(TF5,TF4,TF1,TF0,TF1)
UL_TFC18	(TF0,TF0,TF0,TF1,TF1)
UL_TFC19	(TF1,TF0,TF0,TF1,TF1)
UL_TFC20	(TF2,TF1,TF0,TF1,TF1)
UL_TFC21	(TF3,TF2,TF0,TF1,TF1)
UL_TFC22	(TF4,TF3,TF0,TF1,TF1)
UL_TFC23	(TF5,TF4,TF1,TF1,TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (8 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0,TF0,TF0,TF0,TF0)
DL_TFC1	(TF1,TF0,TF0,TF0,TF0)
DL_TFC2	(TF2,TF1,TF0,TF0,TF0)
DL_TFC3	(TF3,TF2,TF0,TF0,TF0)
DL_TFC4	(TF4,TF3,TF0,TF0,TF0)
DL_TFC5	(TF5,TF4,TF1,TF0,TF0)
DL_TFC6	(TF0,TF0,TF0,TF1,TF0)
DL_TFC7	(TF1,TF0,TF0,TF1,TF0)
DL_TFC8	(TF2,TF1,TF0,TF1,TF0)
DL_TFC9	(TF3,TF2,TF0,TF1,TF0)
DL_TFC10	(TF4,TF3,TF0,TF1,TF0)
DL_TFC11	(TF5,TF4,TF1,TF1,TF0)
DL_TFC12	(TF0,TF0,TF0,TF0,TF1)
DL_TFC13	(TF1,TF0,TF0,TF0,TF1)
DL_TFC14	(TF2,TF1,TF0,TF0,TF1)
DL_TFC15	(TF3,TF2,TF0,TF0,TF1)
DL_TFC16	(TF4,TF3,TF0,TF0,TF1)
DL_TFC17	(TF5,TF4,TF1,TF0,TF1)
DL_TFC18	(TF0,TF0,TF0,TF1,TF1)
DL_TFC19	(TF1,TF0,TF0,TF1,TF1)
DL_TFC20	(TF2,TF1,TF0,TF1,TF1)
DL_TFC21	(TF3,TF2,TF0,TF1,TF1)
DL_TFC22	(TF4,TF3,TF0,TF1,TF1)
DL_TFC23	(TF5,TF4,TF1,TF1,TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1, DL_TFC13	UL_TFC1, UL_TFC13	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC14	UL_TFC2, UL_TFC14	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
3	DL_TFC3, DL_TFC15	UL_TFC3, UL_TFC15	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC12, UL_TFC15	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
4	DL_TFC4, DL_TFC16	UL_TFC4, UL_TFC16	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC4, UL_TFC12, UL_TFC16	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
5	DL_TFC5, DL_TFC17	UL_TFC5, UL_TFC17	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC5, UL_TFC12, UL_TFC17	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
6	DL_TFC6, DL_TFC18	UL_TFC6, UL_TFC18	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC6, UL_TFC12, UL_TFC18	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: No data RB6: No data RB7: No data RB8: 312 bits
7	DL_TFC7, DL_TFC19	UL_TFC7, UL_TFC19	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC12, UL_TFC13, UL_TFC18, UL_TFC19	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 312 bits
8	DL_TFC8, DL_TFC20	UL_TFC8, UL_TFC20	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC12, UL_TFC14, UL_TFC18, UL_TFC20	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 312 bits
9	DL_TFC9, DL_TFC21	UL_TFC9, UL_TFC21	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9, UL_TFC12, UL_TFC15, UL_TFC18, UL_TFC21	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 312 bits
10	DL_TFC10, DL_TFC22	UL_TFC10, UL_TFC22	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10, UL_TFC12, UL_TFC16, UL_TFC18, UL_TFC22	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 312 bits
11	DL_TFC11, DL_TFC23	UL_TFC11, UL_TFC23	DL_TFC0, DL_TFC12, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11, UL_TFC12, UL_TFC17, UL_TFC18, UL_TFC23	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

14.2.38f.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15 the UE shall return
   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2,3 and 4: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.
   - for sub-test 5: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.
   - for sub-test 6: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 7: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 8,9 and 10: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 11: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.38g Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:16 DL:16 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.38g.1 Conformance requirement

See clause 14.2.4.1.

14.2.38g.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38g.

14.2.38g.3 Method of test

See clause 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (16 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,RB8,DCCH)
UL_TFC0	(TF0,TF0,TF0,TF0,TF0)
UL_TFC1	(TF1,TF0,TF0,TF0,TF0)
UL_TFC2	(TF2,TF1,TF0,TF0,TF0)
UL_TFC3	(TF3,TF2,TF0,TF0,TF0)
UL_TFC4	(TF4,TF3,TF0,TF0,TF0)
UL_TFC5	(TF5,TF4,TF1,TF0,TF0)
UL_TFC6	(TF0,TF0,TF0,TF1,TF0)
UL_TFC7	(TF1,TF0,TF0,TF1,TF0)
UL_TFC8	(TF3,TF2,TF0,TF1,TF0)
UL_TFC9	(TF4,TF3,TF0,TF1,TF0)
UL_TFC10	(TF5,TF4,TF1,TF1,TF0)
UL_TFC11	(TF0,TF0,TF0,TF2,TF0)
UL_TFC12	(TF1,TF0,TF0,TF2,TF0)
UL_TFC13	(TF3,TF2,TF0,TF2,TF0)
UL_TFC14	(TF4,TF3,TF0,TF2,TF0)
UL_TFC15	(TF5,TF4,TF1,TF2,TF0)
UL_TFC16	(TF0,TF0,TF0,TF0,TF1)
UL_TFC17	(TF1,TF0,TF0,TF0,TF1)
UL_TFC18	(TF2,TF1,TF0,TF0,TF1)
UL_TFC19	(TF3,TF2,TF0,TF0,TF1)
UL_TFC20	(TF4,TF3,TF0,TF0,TF1)
UL_TFC21	(TF5,TF4,TF1,TF0,TF1)
UL_TFC22	(TF0,TF0,TF0,TF1,TF1)
UL_TFC23	(TF1,TF0,TF0,TF1,TF1)
UL_TFC24	(TF3,TF2,TF0,TF1,TF1)
UL_TFC25	(TF4,TF3,TF0,TF1,TF1)
UL_TFC26	(TF5,TF4,TF1,TF1,TF1)
UL_TFC27	(TF0,TF0,TF0,TF2,TF1)
UL_TFC28	(TF1,TF0,TF0,TF2,TF1)
UL_TFC29	(TF3,TF2,TF0,TF2,TF1)
UL_TFC30	(TF4,TF3,TF0,TF2,TF1)
UL_TFC31	(TF5,TF4,TF1,TF2,TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (16 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0,TF0,TF0,TF0,TF0)
DL_TFC1	(TF1,TF0,TF0,TF0,TF0)
DL_TFC2	(TF2,TF1,TF0,TF0,TF0)
DL_TFC3	(TF3,TF2,TF0,TF0,TF0)
DL_TFC4	(TF4,TF3,TF0,TF0,TF0)
DL_TFC5	(TF5,TF4,TF1,TF0,TF0)
DL_TFC6	(TF0,TF0,TF0,TF1,TF0)
DL_TFC7	(TF1,TF0,TF0,TF1,TF0)
DL_TFC8	(TF2,TF1,TF0,TF1,TF0)
DL_TFC9	(TF3,TF2,TF0,TF1,TF0)
DL_TFC10	(TF4,TF3,TF0,TF1,TF0)
DL_TFC11	(TF5,TF4,TF1,TF1,TF0)
DL_TFC12	(TF0,TF0,TF0,TF2,TF0)
DL_TFC13	(TF1,TF0,TF0,TF2,TF0)
DL_TFC14	(TF2,TF1,TF0,TF2,TF0)
DL_TFC15	(TF3,TF2,TF0,TF2,TF0)
DL_TFC16	(TF4,TF3,TF0,TF2,TF0)
DL_TFC17	(TF5,TF4,TF1,TF2,TF0)
DL_TFC18	(TF0,TF0,TF0,TF0,TF1)
DL_TFC19	(TF1,TF0,TF0,TF0,TF1)
DL_TFC20	(TF2,TF1,TF0,TF0,TF1)
DL_TFC21	(TF3,TF2,TF0,TF0,TF1)
DL_TFC22	(TF4,TF3,TF0,TF0,TF1)
DL_TFC23	(TF5,TF4,TF1,TF0,TF1)
DL_TFC24	(TF0,TF0,TF0,TF1,TF1)
DL_TFC25	(TF1,TF0,TF0,TF1,TF1)
DL_TFC26	(TF2,TF1,TF0,TF1,TF1)
DL_TFC27	(TF3,TF2,TF0,TF1,TF1)
DL_TFC28	(TF4,TF3,TF0,TF1,TF1)
DL_TFC29	(TF5,TF4,TF1,TF1,TF1)
DL_TFC30	(TF0,TF0,TF0,TF2,TF1)
DL_TFC31	(TF1,TF0,TF0,TF2,TF1)
DL_TFC32	(TF2,TF1,TF0,TF2,TF1)
DL_TFC33	(TF3,TF2,TF0,TF2,TF1)
DL_TFC34	(TF4,TF3,TF0,TF2,TF1)
DL_TFC35	(TF5,TF4,TF1,TF2,TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1, DL_TFC19	UL_TFC1, UL_TFC17	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC16, UL_TFC17	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC20	UL_TFC2, UL_TFC18	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC2, UL_TFC16, UL_TFC18	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
3	DL_TFC3, DL_TFC21	UL_TFC3, UL_TFC19	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC16, UL_TFC19	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
4	DL_TFC4, DL_TFC22	UL_TFC4, UL_TFC20	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC4, UL_TFC16, UL_TFC20	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
5	DL_TFC5, DL_TFC23	UL_TFC5, UL_TFC21	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC5, UL_TFC16, UL_TFC21	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
6	DL_TFC6, DL_TFC24	UL_TFC6, UL_TFC22	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC6, UL_TFC16, UL_TFC22	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: No data RB6: No data RB7: No data RB8: 312 bits
7	DL_TFC7, DL_TFC25	UL_TFC7, UL_TFC23	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC16, UL_TFC17, UL_TFC22, UL_TFC23	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 312 bits
8	DL_TFC8, DL_TFC26	UL_TFC8, UL_TFC24	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC8, UL_TFC16, UL_TFC19, UL_TFC22, UL_TFC24	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 312 bits
9	DL_TFC9, DL_TFC27	UL_TFC8, UL_TFC24	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC8, UL_TFC16, UL_TFC19, UL_TFC22, UL_TFC24	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 312 bits
10	DL_TFC10, DL_TFC28	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC9, UL_TFC16, UL_TFC20, UL_TFC22, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 312 bits
11	DL_TFC11, DL_TFC29	UL_TFC10, UL_TFC26	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC16, UL_TFC21, UL_TFC22, UL_TFC26	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits

12	DL_TFC12, DL_TFC30	UL_TFC11, UL_TFC27	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC11, UL_TFC16, UL_TFC27	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: No data RB6: No data RB7: No data RB8: 632 bits
13	DL_TFC13, DL_TFC31	UL_TFC12, UL_TFC28	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC11, UL_TFC12, UL_TFC16, UL_TFC17, UL_TFC27, UL_TFC28	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 632 bits
14	DL_TFC14, DL_TFC32	UL_TFC13, UL_TFC29	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC11, UL_TFC13, UL_TFC16, UL_TFC19, UL_TFC27, UL_TFC29	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 632 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 632 bits
15	DL_TFC15, DL_TFC33	UL_TFC13, UL_TFC29	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC11, UL_TFC13, UL_TFC16, UL_TFC19, UL_TFC27, UL_TFC29	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 632 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 632 bits
16	DL_TFC16, DL_TFC34	UL_TFC14, UL_TFC30	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC4, UL_TFC11, UL_TFC14, UL_TFC16, UL_TFC20, UL_TFC27, UL_TFC30	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 632 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 632 bits
17	DL_TFC17, DL_TFC35	UL_TFC15, UL_TFC31	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC5, UL_TFC11, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC27, UL_TFC31	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

14.2.38g.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15 the UE shall return

   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2,3 and 4: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.

   - for sub-test 5: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.

   - for sub-test 6: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 7: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

   - for sub-test 8: RLC SDUs on RB5 having the first 42 bits equal to the content of the test data sent by the SS in downlink ; RLC SDUs on RB6 having the first 53 bits equal to the content of the test data sent by the SS in downlink ; RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB7.

   - for sub-test 9 and 10: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.

   - for sub-test 11: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.

   - for sub-test 12: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 13: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

   - for sub-test 14: RLC SDUs on RB5 having the first 42 bits equal to the content of the test data sent by the SS in downlink ; RLC SDUs on RB6 having the first 53 bits equal to the content of the test data sent by the SS in downlink ; RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB7.

   - for sub-test 15 and 16: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.

   - for sub-test 17: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.38h Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2. 38h.1 Conformance requirement

See clause 14.2.4.1.

14.2. 38h.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38h.

14.2.38h.3 Method of test

See clause 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	3x336	N/A
	TF4, bits	1x75	1x103	N/A	4x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,RB8,DCCH)
UL_TFC0	(TF0,TF0,TF0,TF0,TF0)
UL_TFC1	(TF0,TF0,TF0,TF1,TF0)
UL_TFC2	(TF0,TF0,TF0,TF2,TF0)
UL_TFC3	(TF0,TF0,TF0,TF4,TF0)
UL_TFC4	(TF5,TF4,TF1,TF0,TF0)
UL_TFC5	(TF5,TF4,TF1,TF1,TF0)
UL_TFC6	(TF5,TF4,TF1,TF2,TF0)
UL_TFC7	(TF5,TF4,TF1,TF4,TF0)
UL_TFC8	(TF4,TF3,TF0,TF0,TF0)
UL_TFC9	(TF4,TF3,TF0,TF1,TF0)
UL_TFC10	(TF3,TF2,TF0,TF0,TF0)
UL_TFC11	(TF2,TF1,TF0,TF0,TF0)
UL_TFC12	(TF1,TF0,TF0,TF0,TF0)
UL_TFC13	(TF1,TF0,TF0,TF1,TF0)
UL_TFC14	(TF1,TF0,TF0,TF2,TF0)
UL_TFC15	(TF1,TF0,TF0,TF4,TF0)
UL_TFC16	(TF0,TF0,TF0,TF0,TF1)
UL_TFC17	(TF0,TF0,TF0,TF1,TF1)
UL_TFC18	(TF0,TF0,TF0,TF2,TF1)
UL_TFC19	(TF0,TF0,TF0,TF4,TF1)
UL_TFC20	(TF5,TF4,TF1,TF0,TF1)
UL_TFC21	(TF5,TF4,TF1,TF1,TF1)
UL_TFC22	(TF5,TF4,TF1,TF2,TF1)
UL_TFC23	(TF5,TF4,TF1,TF4,TF1)
UL_TFC24	(TF4,TF3,TF0,TF0,TF1)
UL_TFC25	(TF4,TF3,TF0,TF1,TF1)
UL_TFC26	(TF3,TF2,TF0,TF0,TF1)
UL_TFC27	(TF2,TF1,TF0,TF0,TF1)
UL_TFC28	(TF1,TF0,TF0,TF0,TF1)
UL_TFC29	(TF1,TF0,TF0,TF1,TF1)
UL_TFC30	(TF1,TF0,TF0,TF2,TF1)
UL_TFC31	(TF1,TF0,TF0,TF4,TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps, 40 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	3x336	N/A
	TF4, bits	1x75	1x103	N/A	4x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0,TF0,TF0,TF0,TF0)
DL_TFC1	(TF0,TF0,TF0,TF1,TF0)
DL_TFC2	(TF0,TF0,TF0,TF2,TF0)
DL_TFC3	(TF0,TF0,TF0,TF4,TF0)
DL_TFC4	(TF5,TF4,TF1,TF0,TF0)
DL_TFC5	(TF5,TF4,TF1,TF1,TF0)
DL_TFC6	(TF5,TF4,TF1,TF2,TF0)
DL_TFC7	(TF5,TF4,TF1,TF4,TF0)
DL_TFC8	(TF4,TF3,TF0,TF0,TF0)
DL_TFC9	(TF4,TF3,TF0,TF1,TF0)
DL_TFC10	(TF4,TF3,TF0,TF2,TF0)
DL_TFC11	(TF4,TF3,TF0,TF4,TF0)
DL_TFC12	(TF3,TF2,TF0,TF0,TF0)
DL_TFC13	(TF3,TF2,TF0,TF1,TF0)
DL_TFC14	(TF3,TF2,TF0,TF2,TF0)
DL_TFC15	(TF3,TF2,TF0,TF4,TF0)
DL_TFC16	(TF2,TF1,TF0,TF0,TF0)
DL_TFC17	(TF2,TF1,TF0,TF1,TF0)
DL_TFC18	(TF2,TF1,TF0,TF2,TF0)
DL_TFC19	(TF2,TF1,TF0,TF4,TF0)
DL_TFC20	(TF1,TF0,TF0,TF0,TF0)
DL_TFC21	(TF1,TF0,TF0,TF1,TF0)
DL_TFC22	(TF1,TF0,TF0,TF2,TF0)
DL_TFC23	(TF1,TF0,TF0,TF4,TF0)
DL_TFC24	(TF0,TF0,TF0,TF0,TF1)
DL_TFC25	(TF0,TF0,TF0,TF1,TF1)
DL_TFC26	(TF0,TF0,TF0,TF2,TF1)
DL_TFC27	(TF0,TF0,TF0,TF4,TF1)
DL_TFC28	(TF5,TF4,TF1,TF0,TF1)
DL_TFC29	(TF5,TF4,TF1,TF1,TF1)
DL_TFC30	(TF5,TF4,TF1,TF2,TF1)
DL_TFC31	(TF5,TF4,TF1,TF4,TF1)
DL_TFC32	(TF4,TF3,TF0,TF0,TF1)
DL_TFC33	(TF4,TF3,TF0,TF1,TF1)
DL_TFC34	(TF4,TF3,TF0,TF2,TF1)
DL_TFC35	(TF4,TF3,TF0,TF4,TF1)
DL_TFC36	(TF3,TF2,TF0,TF0,TF1)
DL_TFC37	(TF3,TF2,TF0,TF1,TF1)
DL_TFC38	(TF3,TF2,TF0,TF2,TF1)
DL_TFC39	(TF3,TF2,TF0,TF4,TF1)
DL_TFC40	(TF2,TF1,TF0,TF0,TF1)
DL_TFC41	(TF2,TF1,TF0,TF1,TF1)
DL_TFC42	(TF2,TF1,TF0,TF2,TF1)
DL_TFC43	(TF2,TF1,TF0,TF4,TF1)
DL_TFC44	(TF1,TF0,TF0,TF0,TF1)
DL_TFC45	(TF1,TF0,TF0,TF1,TF1)
DL_TFC46	(TF1,TF0,TF0,TF2,TF1)
DL_TFC47	(TF1,TF0,TF0,TF4,TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1, DL_TFC25	UL_TFC1, UL_TFC17	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC16, UL_TFC17	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: No data RB6: No data RB7: No data RB8: 312
2	DL_TFC2, DL_TFC26	UL_TFC2, UL_TFC18	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC2, UL_TFC16, UL_TFC18	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: No data RB6: No data RB7: No data RB8: 632
3	DL_TFC3, DL_TFC27	UL_TFC3, UL_TFC19	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC16, UL_TFC19	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: No data RB6: No data RB7: No data RB8: 1272
4	DL_TFC4, DL_TFC28	UL_TFC4, UL_TFC20	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC4, UL_TFC16, UL_TFC20	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
5	DL_TFC5, DL_TFC29	UL_TFC5, UL_TFC21	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC16, UL_TFC17, UL_TFC20, UL_TFC21	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits
6	DL_TFC6, DL_TFC30	UL_TFC6, UL_TFC22	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6, UL_TFC16, UL_TFC18, UL_TFC20, UL_TFC22	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits
7	DL_TFC7, DL_TFC31	UL_TFC7, UL_TFC23	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC4, UL_TFC7, UL_TFC16, UL_TFC19, UL_TFC20, UL_TFC23	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits
8	DL_TFC8, DL_TFC32	UL_TFC8, UL_TFC24	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC8, UL_TFC16, UL_TFC24	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
9	DL_TFC9, DL_TFC33	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 312 bits
10	DL_TFC10, DL_TFC34	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 632 bits

11	DL_TFC11, DL_TFC35	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 1272 bits
12	DL_TFC12, DL_TFC36	UL_TFC10, UL_TFC26	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC10, UL_TFC16, UL_TFC26	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
13	DL_TFC13, DL_TFC37	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 312 bits
14	DL_TFC14, DL_TFC38	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 632 bits
15	DL_TFC15, DL_TFC39	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 1272 bits
16	DL_TFC16, DL_TFC40	UL_TFC11, UL_TFC27	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC11, UL_TFC16, UL_TFC27	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
17	DL_TFC17, DL_TFC41	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 312 bits
18	DL_TFC18, DL_TFC42	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 632 bits
19	DL_TFC19, DL_TFC43	UL_TFC9, UL_TFC25	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC8, UL_TFC9, UL_TFC16, UL_TFC17, UL_TFC24, UL_TFC25	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 1272 bits
20	DL_TFC20, DL_TFC44	UL_TFC12, UL_TFC28	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC12, UL_TFC16, UL_TFC28	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data

21	DL_TFC21, DL_TFC45	UL_TFC13, UL_TFC29	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC16, UL_TFC17, UL_TFC28, UL_TFC29	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 312 bits
22	DL_TFC22, DL_TFC46	UL_TFC14, UL_TFC30	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC16, UL_TFC18, UL_TFC28, UL_TFC30	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 632 bits
23	DL_TFC23, DL_TFC47	UL_TFC15, UL_TFC31	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC16	UL_TFC0, UL_TFC3, UL_TFC12, UL_TFC15, UL_TFC16, UL_TFC19, UL_TFC28, UL_TFC31	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 1272 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

14.2. 38h.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15 the UE shall return

   - for sub-test 1,2 and 3: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.

   - for sub-test 5, 6 and 7: RLC SDUs on RB5, RB6, RB7 and RB8 having the same content as sent by the SS.

   - for sub-test 8: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.

   - for sub-test 9: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.

   - for sub-test 10 and 11: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; RLC SDUs on RB8 having the same content as the first 312 bits of the test data sent by the SS in downlink; and no data shall be received on RB7.

- for sub-test 12: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.

- for sub-test 13: RLC SDUs on RB5 having the first 55 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB6 having the first 63 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB7.

- for sub-test 14 and 15: RLC SDUs on RB5 having the first 55 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB6 having the first 63 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB8 having the same content as the first 312 bits of the test data sent by the SS in downlink; and no data shall be received on RB7.

- for sub-test 16: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.

- for sub-test 17: RLC SDUs on RB5 having the first 42 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB6 having the first 53 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB7.

- for sub-test 18 and 19: RLC SDUs on RB5 having the first 42 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB6 having the first 53 bits equal to the content of the test data sent by the SS in downlink; RLC SDUs on RB8 having the same content as the first 312 bits of the test data sent by the SS in downlink; and no data shall be received on RB7.

- for sub-test 20: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.

- for sub-test 21, 22 and 23: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.38i Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.38i.1 Conformance requirement

See clause 14.2.4.1.

14.2.38i.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38i.

14.2.38i.3 Method of test

See clause 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	3x336	N/A
	TF4, bits	1x75	1x103	N/A	4x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,RB8,DCCH)
UL_TFC0	(TF0,TF0,TF0,TF0,TF0)
UL_TFC1	(TF1,TF0,TF0,TF0,TF0)
UL_TFC2	(TF2,TF1,TF0,TF0,TF0)
UL_TFC3	(TF3,TF2,TF0,TF0,TF0)
UL_TFC4	(TF4,TF3,TF0,TF0,TF0)
UL_TFC5	(TF5,TF4,TF1,TF0,TF0)
UL_TFC6	(TF0,TF0,TF0,TF1,TF0)
UL_TFC7	(TF1,TF0,TF0,TF1,TF0)
UL_TFC8	(TF2,TF1,TF0,TF1,TF0)
UL_TFC9	(TF3,TF2,TF0,TF1,TF0)
UL_TFC10	(TF4,TF3,TF0,TF1,TF0)
UL_TFC11	(TF5,TF4,TF1,TF1,TF0)
UL_TFC12	(TF0,TF0,TF0,TF2,TF0)
UL_TFC13	(TF1,TF0,TF0,TF2,TF0)
UL_TFC14	(TF2,TF1,TF0,TF2,TF0)
UL_TFC15	(TF3,TF2,TF0,TF2,TF0)
UL_TFC16	(TF4,TF3,TF0,TF2,TF0)
UL_TFC17	(TF5,TF4,TF1,TF2,TF0)
UL_TFC18	(TF0,TF0,TF0,TF4,TF0)
UL_TFC19	(TF1,TF0,TF0,TF4,TF0)
UL_TFC20	(TF2,TF1,TF0,TF4,TF0)
UL_TFC21	(TF3,TF2,TF0,TF4,TF0)
UL_TFC22	(TF4,TF3,TF0,TF4,TF0)
UL_TFC23	(TF5,TF4,TF1,TF4,TF0)
UL_TFC24	(TF0,TF0,TF0,TF0,TF1)
UL_TFC25	(TF1,TF0,TF0,TF0,TF1)
UL_TFC26	(TF2,TF1,TF0,TF0,TF1)
UL_TFC27	(TF3,TF2,TF0,TF0,TF1)
UL_TFC28	(TF4,TF3,TF0,TF0,TF1)
UL_TFC29	(TF5,TF4,TF1,TF0,TF1)
UL_TFC30	(TF0,TF0,TF0,TF1,TF1)
UL_TFC31	(TF1,TF0,TF0,TF1,TF1)
UL_TFC32	(TF2,TF1,TF0,TF1,TF1)
UL_TFC33	(TF3,TF2,TF0,TF1,TF1)
UL_TFC34	(TF4,TF3,TF0,TF1,TF1)
UL_TFC35	(TF5,TF4,TF1,TF1,TF1)
UL_TFC36	(TF0,TF0,TF0,TF2,TF1)
UL_TFC37	(TF1,TF0,TF0,TF2,TF1)
UL_TFC38	(TF2,TF1,TF0,TF2,TF1)
UL_TFC39	(TF3,TF2,TF0,TF2,TF1)
UL_TFC40	(TF4,TF3,TF0,TF2,TF1)
UL_TFC41	(TF5,TF4,TF1,TF2,TF1)
UL_TFC42	(TF0,TF0,TF0,TF4,TF1)
UL_TFC43	(TF1,TF0,TF0,TF4,TF1)
UL_TFC44	(TF2,TF1,TF0,TF4,TF1)
UL_TFC45	(TF3,TF2,TF0,TF4,TF1)
UL_TFC46	(TF4,TF3,TF0,TF4,TF1)
UL_TFC47	(TF5,TF4,TF1,TF4,TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	3x336	N/A
	TF4, bits	1x75	1x103	N/A	4x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0,TF0,TF0,TF0,TF0)
DL_TFC1	(TF1,TF0,TF0,TF0,TF0)
DL_TFC2	(TF2,TF1,TF0,TF0,TF0)
DL_TFC3	(TF3,TF2,TF0,TF0,TF0)
DL_TFC4	(TF4,TF3,TF0,TF0,TF0)
DL_TFC5	(TF5,TF4,TF1,TF0,TF0)
DL_TFC6	(TF0,TF0,TF0,TF1,TF0)
DL_TFC7	(TF1,TF0,TF0,TF1,TF0)
DL_TFC8	(TF2,TF1,TF0,TF1,TF0)
DL_TFC9	(TF3,TF2,TF0,TF1,TF0)
DL_TFC10	(TF4,TF3,TF0,TF1,TF0)
DL_TFC11	(TF5,TF4,TF1,TF1,TF0)
DL_TFC12	(TF0,TF0,TF0,TF2,TF0)
DL_TFC13	(TF1,TF0,TF0,TF2,TF0)
DL_TFC14	(TF2,TF1,TF0,TF2,TF0)
DL_TFC15	(TF3,TF2,TF0,TF2,TF0)
DL_TFC16	(TF4,TF3,TF0,TF2,TF0)
DL_TFC17	(TF5,TF4,TF1,TF2,TF0)
DL_TFC18	(TF0,TF0,TF0,TF3,TF0)
DL_TFC19	(TF1,TF0,TF0,TF3,TF0)
DL_TFC20	(TF2,TF1,TF0,TF3,TF0)
DL_TFC21	(TF3,TF2,TF0,TF3,TF0)
DL_TFC22	(TF4,TF3,TF0,TF3,TF0)
DL_TFC23	(TF5,TF4,TF1,TF3,TF0)
DL_TFC24	(TF0,TF0,TF0,TF4,TF0)
DL_TFC25	(TF1,TF0,TF0,TF4,TF0)
DL_TFC26	(TF2,TF1,TF0,TF4,TF0)
DL_TFC27	(TF3,TF2,TF0,TF4,TF0)
DL_TFC28	(TF4,TF3,TF0,TF4,TF0)
DL_TFC29	(TF5,TF4,TF1,TF4,TF0)
DL_TFC30	(TF0,TF0,TF0,TF0,TF1)
DL_TFC31	(TF1,TF0,TF0,TF0,TF1)
DL_TFC32	(TF2,TF1,TF0,TF0,TF1)
DL_TFC33	(TF3,TF2,TF0,TF0,TF1)
DL_TFC34	(TF4,TF3,TF0,TF0,TF1)
DL_TFC35	(TF5,TF4,TF1,TF0,TF1)
DL_TFC36	(TF0,TF0,TF0,TF1,TF1)
DL_TFC37	(TF1,TF0,TF0,TF1,TF1)
DL_TFC38	(TF2,TF1,TF0,TF1,TF1)
DL_TFC39	(TF3,TF2,TF0,TF1,TF1)
DL_TFC40	(TF4,TF3,TF0,TF1,TF1)
DL_TFC41	(TF5,TF4,TF1,TF1,TF1)
DL_TFC42	(TF0,TF0,TF0,TF2,TF1)
DL_TFC43	(TF1,TF0,TF0,TF2,TF1)
DL_TFC44	(TF2,TF1,TF0,TF2,TF1)
DL_TFC45	(TF3,TF2,TF0,TF2,TF1)
DL_TFC46	(TF4,TF3,TF0,TF2,TF1)
DL_TFC47	(TF5,TF4,TF1,TF2,TF1)
DL_TFC48	(TF0,TF0,TF0,TF3,TF1)
DL_TFC49	(TF1,TF0,TF0,TF3,TF1)
DL_TFC50	(TF2,TF1,TF0,TF3,TF1)
DL_TFC51	(TF3,TF2,TF0,TF3,TF1)
DL_TFC52	(TF4,TF3,TF0,TF3,TF1)
DL_TFC53	(TF5,TF4,TF1,TF3,TF1)
DL_TFC54	(TF0,TF0,TF0,TF4,TF1)
DL_TFC55	(TF1,TF0,TF0,TF4,TF1)
DL_TFC56	(TF2,TF1,TF0,TF4,TF1)
DL_TFC57	(TF3,TF2,TF0,TF4,TF1)
DL_TFC58	(TF4,TF3,TF0,TF4,TF1)
DL_TFC59	(TF5,TF4,TF1,TF4,TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1, DL_TFC31	UL_TFC1, UL_TFC25	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC24, UL_TFC25	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC32	UL_TFC2, UL_TFC26	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC24, UL_TFC26	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
3	DL_TFC3, DL_TFC33	UL_TFC3, UL_TFC27	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC24, UL_TFC27	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
4	DL_TFC4, DL_TFC34	UL_TFC4, UL_TFC28	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC24, UL_TFC28	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
5	DL_TFC5, DL_TFC35	UL_TFC5, UL_TFC29	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC24, UL_TFC29	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
6	DL_TFC6, DL_TFC36	UL_TFC6, UL_TFC30	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC6, UL_TFC24, UL_TFC30	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: No data RB6: No data RB7: No data RB8: 312 bits
7	DL_TFC7, DL_TFC37	UL_TFC7, UL_TFC31	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC24, UL_TFC25, UL_TFC30, UL_TFC31	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 312 bits
8	DL_TFC8, DL_TFC38	UL_TFC8, UL_TFC32	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC24, UL_TFC26, UL_TFC30, UL_TFC32	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 312 bits
9	DL_TFC9, DL_TFC39	UL_TFC9, UL_TFC33	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9, UL_TFC24, UL_TFC27, UL_TFC30, UL_TFC33	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 312 bits
10	DL_TFC10, DL_TFC40	UL_TFC10, UL_TFC34	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10, UL_TFC24, UL_TFC28, UL_TFC30, UL_TFC34	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 312 bits
11	DL_TFC11, DL_TFC41	UL_TFC11, UL_TFC35	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11, UL_TFC24, UL_TFC29, UL_TFC30, UL_TFC35	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits

12	DL_TFC12, DL_TFC42	UL_TFC12, UL_TFC36	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC12, UL_TFC24, UL_TFC36	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: No data RB6: No data RB7: No data RB8: 632 bits
13	DL_TFC13, DL_TFC43	UL_TFC13, UL_TFC37	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC24, UL_TFC25, UL_TFC36, UL_TFC37	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 632 bits
14	DL_TFC14, DL_TFC44	UL_TFC14, UL_TFC38	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC24, UL_TFC26, UL_TFC36, UL_TFC38	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 632 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 632 bits
15	DL_TFC15, DL_TFC45	UL_TFC15, UL_TFC39	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC12, UL_TFC15, UL_TFC24, UL_TFC27, UL_TFC36, UL_TFC39	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 632 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 632 bits
16	DL_TFC16, DL_TFC46	UL_TFC16, UL_TFC40	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC12, UL_TFC16, UL_TFC24, UL_TFC28, UL_TFC36, UL_TFC40	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 632 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 632 bits
17	DL_TFC17, DL_TFC47	UL_TFC17, UL_TFC41	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC12, UL_TFC17, UL_TFC24, UL_TFC29, UL_TFC36, UL_TFC41	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits
18	DL_TFC18, DL_TFC48	UL_TFC18, UL_TFC42	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC18, UL_TFC24, UL_TFC42	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: No data RB6: No data RB7: No data RB8: 952 bits
19	DL_TFC19, DL_TFC49	UL_TFC19, UL_TFC43	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC18, UL_TFC19, UL_TFC24, UL_TFC25, UL_TFC42, UL_TFC43	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 952 bits
20	DL_TFC20, DL_TFC50	UL_TFC20, UL_TFC44	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC18, UL_TFC20, UL_TFC24, UL_TFC26, UL_TFC42, UL_TFC44	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 1272 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 952 bits

21	DL_TFC21, DL_TFC51	UL_TFC21, UL_TFC45	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC18, UL_TFC21, UL_TFC24, UL_TFC27, UL_TFC42, UL_TFC45	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 1272 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 952 bits
22	DL_TFC22, DL_TFC52	UL_TFC22, UL_TFC46	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC18, UL_TFC22, UL_TFC24, UL_TFC28, UL_TFC42, UL_TFC46	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 1272 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 952 bits
23	DL_TFC23, DL_TFC53	UL_TFC23, UL_TFC47	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC18, UL_TFC23, UL_TFC24, UL_TFC29, UL_TFC42, UL_TFC47	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 952 bits
24	DL_TFC24, DL_TFC54	UL_TFC18, UL_TFC42	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC18, UL_TFC24, UL_TFC42	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: No data RB6: No data RB7: No data RB8: 1272 bits
25	DL_TFC25, DL_TFC55	UL_TFC19, UL_TFC43	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC18, UL_TFC19, UL_TFC24, UL_TFC25, UL_TFC42, UL_TFC43	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 1272 bits
26	DL_TFC26, DL_TFC56	UL_TFC20, UL_TFC44	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC18, UL_TFC20, UL_TFC24, UL_TFC26, UL_TFC42, UL_TFC44	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 1272 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 1272 bits
27	DL_TFC27, DL_TFC57	UL_TFC21, UL_TFC45	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC18, UL_TFC21, UL_TFC24, UL_TFC27, UL_TFC42, UL_TFC45	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 1272 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 1272 bits
28	DL_TFC28, DL_TFC58	UL_TFC22, UL_TFC46	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC18, UL_TFC22, UL_TFC24, UL_TFC28, UL_TFC42, UL_TFC46	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 1272 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 1272 bits
29	DL_TFC29, DL_TFC59	UL_TFC23, UL_TFC47	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC18, UL_TFC23, UL_TFC24, UL_TFC29, UL_TFC42, UL_TFC47	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

14.2.38i.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15 the UE shall return
   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2,3 and 4: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.
   - for sub-test 5: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.
   - for sub-test 6: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 7: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 8,9 and 10: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 11: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
   - for sub-test 12: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 13: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 14,15 and 16: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 17: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
   - for sub-test 18: RLC SDUs on RB8 having the first 952 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 19: RLC SDUs on RB5 having the same content as sent by the SS; RLC SDUs on RB8 having the first 952 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.
   - for sub-test 20,21 and 22: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; RLC SDUs on RB8 having the first 952 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB7.
   - for sub-test 23: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and RLC SDUs on RB8 having the first 952 bits equal to the content of the test data sent by the SS in downlink.

- for sub-test 24: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 25: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
- for sub-test 26,27 and 28: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
- for sub-test 29: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.38j Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.38j.1 Conformance requirement

See clause 14.2.4.1.

14.2.38j.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38j.

14.2.38j.3 Method of test

See clause 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	3x336	N/A
	TF4, bits	1x75	1x103	N/A	4x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,RB8,DCCH)
UL_TFC0	(TF0,TF0,TF0,TF0,TF0)
UL_TFC1	(TF1,TF0,TF0,TF0,TF0)
UL_TFC2	(TF2,TF1,TF0,TF0,TF0)
UL_TFC3	(TF3,TF2,TF0,TF0,TF0)
UL_TFC4	(TF4,TF3,TF0,TF0,TF0)
UL_TFC5	(TF5,TF4,TF1,TF0,TF0)
UL_TFC6	(TF0,TF0,TF0,TF1,TF0)
UL_TFC7	(TF1,TF0,TF0,TF1,TF0)
UL_TFC8	(TF2,TF1,TF0,TF1,TF0)
UL_TFC9	(TF3,TF2,TF0,TF1,TF0)
UL_TFC10	(TF4,TF3,TF0,TF1,TF0)
UL_TFC11	(TF5,TF4,TF1,TF1,TF0)
UL_TFC12	(TF0,TF0,TF0,TF2,TF0)
UL_TFC13	(TF1,TF0,TF0,TF2,TF0)
UL_TFC14	(TF2,TF1,TF0,TF2,TF0)
UL_TFC15	(TF3,TF2,TF0,TF2,TF0)
UL_TFC16	(TF4,TF3,TF0,TF2,TF0)
UL_TFC17	(TF5,TF4,TF1,TF2,TF0)
UL_TFC18	(TF0,TF0,TF0,TF4,TF0)
UL_TFC19	(TF1,TF0,TF0,TF4,TF0)
UL_TFC20	(TF2,TF1,TF0,TF4,TF0)
UL_TFC21	(TF3,TF2,TF0,TF4,TF0)
UL_TFC22	(TF4,TF3,TF0,TF4,TF0)
UL_TFC23	(TF5,TF4,TF1,TF4,TF0)
UL_TFC24	(TF0,TF0,TF0,TF0,TF1)
UL_TFC25	(TF1,TF0,TF0,TF0,TF1)
UL_TFC26	(TF2,TF1,TF0,TF0,TF1)
UL_TFC27	(TF3,TF2,TF0,TF0,TF1)
UL_TFC28	(TF4,TF3,TF0,TF0,TF1)
UL_TFC29	(TF5,TF4,TF1,TF0,TF1)
UL_TFC30	(TF0,TF0,TF0,TF1,TF1)
UL_TFC31	(TF1,TF0,TF0,TF1,TF1)
UL_TFC32	(TF2,TF1,TF0,TF1,TF1)
UL_TFC33	(TF3,TF2,TF0,TF1,TF1)
UL_TFC34	(TF4,TF3,TF0,TF1,TF1)
UL_TFC35	(TF5,TF4,TF1,TF1,TF1)
UL_TFC36	(TF0,TF0,TF0,TF2,TF1)
UL_TFC37	(TF1,TF0,TF0,TF2,TF1)
UL_TFC38	(TF2,TF1,TF0,TF2,TF1)
UL_TFC39	(TF3,TF2,TF0,TF2,TF1)
UL_TFC40	(TF4,TF3,TF0,TF2,TF1)
UL_TFC41	(TF5,TF4,TF1,TF2,TF1)
UL_TFC42	(TF0,TF0,TF0,TF4,TF1)
UL_TFC43	(TF1,TF0,TF0,TF4,TF1)
UL_TFC44	(TF2,TF1,TF0,TF4,TF1)
UL_TFC45	(TF3,TF2,TF0,TF4,TF1)
UL_TFC46	(TF4,TF3,TF0,TF4,TF1)
UL_TFC47	(TF5,TF4,TF1,TF4,TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	1x336	1x148
	TF2, bits	1x42	1x63	N/A	2x336	N/A
	TF3, bits	1x55	1x84	N/A	4x336	N/A
	TF4, bits	1x75	1x103	N/A	8x336	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0,TF0,TF0,TF0,TF0)
DL_TFC1	(TF1,TF0,TF0,TF0,TF0)
DL_TFC2	(TF2,TF1,TF0,TF0,TF0)
DL_TFC3	(TF3,TF2,TF0,TF0,TF0)
DL_TFC4	(TF4,TF3,TF0,TF0,TF0)
DL_TFC5	(TF5,TF4,TF1,TF0,TF0)
DL_TFC6	(TF0,TF0,TF0,TF1,TF0)
DL_TFC7	(TF1,TF0,TF0,TF1,TF0)
DL_TFC8	(TF2,TF1,TF0,TF1,TF0)
DL_TFC9	(TF3,TF2,TF0,TF1,TF0)
DL_TFC10	(TF4,TF3,TF0,TF1,TF0)
DL_TFC11	(TF5,TF4,TF1,TF1,TF0)
DL_TFC12	(TF0,TF0,TF0,TF2,TF0)
DL_TFC13	(TF1,TF0,TF0,TF2,TF0)
DL_TFC14	(TF2,TF1,TF0,TF2,TF0)
DL_TFC15	(TF3,TF2,TF0,TF2,TF0)
DL_TFC16	(TF4,TF3,TF0,TF2,TF0)
DL_TFC17	(TF5,TF4,TF1,TF2,TF0)
DL_TFC18	(TF0,TF0,TF0,TF3,TF0)
DL_TFC19	(TF1,TF0,TF0,TF3,TF0)
DL_TFC20	(TF2,TF1,TF0,TF3,TF0)
DL_TFC21	(TF3,TF2,TF0,TF3,TF0)
DL_TFC22	(TF4,TF3,TF0,TF3,TF0)
DL_TFC23	(TF5,TF4,TF1,TF3,TF0)
DL_TFC24	(TF0,TF0,TF0,TF4,TF0)
DL_TFC25	(TF1,TF0,TF0,TF4,TF0)
DL_TFC26	(TF2,TF1,TF0,TF4,TF0)
DL_TFC27	(TF3,TF2,TF0,TF4,TF0)
DL_TFC28	(TF4,TF3,TF0,TF4,TF0)
DL_TFC29	(TF5,TF4,TF1,TF4,TF0)
DL_TFC30	(TF0,TF0,TF0,TF0,TF1)
DL_TFC31	(TF1,TF0,TF0,TF0,TF1)
DL_TFC32	(TF2,TF1,TF0,TF0,TF1)
DL_TFC33	(TF3,TF2,TF0,TF0,TF1)
DL_TFC34	(TF4,TF3,TF0,TF0,TF1)
DL_TFC35	(TF5,TF4,TF1,TF0,TF1)
DL_TFC36	(TF0,TF0,TF0,TF1,TF1)
DL_TFC37	(TF1,TF0,TF0,TF1,TF1)
DL_TFC38	(TF2,TF1,TF0,TF1,TF1)
DL_TFC39	(TF3,TF2,TF0,TF1,TF1)
DL_TFC40	(TF4,TF3,TF0,TF1,TF1)
DL_TFC41	(TF5,TF4,TF1,TF1,TF1)
DL_TFC42	(TF0,TF0,TF0,TF2,TF1)
DL_TFC43	(TF1,TF0,TF0,TF2,TF1)
DL_TFC44	(TF2,TF1,TF0,TF2,TF1)
DL_TFC45	(TF3,TF2,TF0,TF2,TF1)
DL_TFC46	(TF4,TF3,TF0,TF2,TF1)
DL_TFC47	(TF5,TF4,TF1,TF2,TF1)
DL_TFC48	(TF0,TF0,TF0,TF3,TF1)
DL_TFC49	(TF1,TF0,TF0,TF3,TF1)
DL_TFC50	(TF2,TF1,TF0,TF3,TF1)
DL_TFC51	(TF3,TF2,TF0,TF3,TF1)
DL_TFC52	(TF4,TF3,TF0,TF3,TF1)
DL_TFC53	(TF5,TF4,TF1,TF3,TF1)
DL_TFC54	(TF0,TF0,TF0,TF4,TF1)
DL_TFC55	(TF1,TF0,TF0,TF4,TF1)
DL_TFC56	(TF2,TF1,TF0,TF4,TF1)
DL_TFC57	(TF3,TF2,TF0,TF4,TF1)
DL_TFC58	(TF4,TF3,TF0,TF4,TF1)
DL_TFC59	(TF5,TF4,TF1,TF4,TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1, DL_TFC31	UL_TFC1, UL_TFC25	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC24, UL_TFC25	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC32	UL_TFC2, UL_TFC26	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC24, UL_TFC26	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
3	DL_TFC3, DL_TFC33	UL_TFC3, UL_TFC27	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC24, UL_TFC27	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
4	DL_TFC4, DL_TFC34	UL_TFC4, UL_TFC28	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC24, UL_TFC28	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
5	DL_TFC5, DL_TFC35	UL_TFC5, UL_TFC29	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC24, UL_TFC29	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
6	DL_TFC6, DL_TFC36	UL_TFC6, UL_TFC30	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC6, UL_TFC24, UL_TFC30	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: No data RB6: No data RB7: No data RB8: 312 bits
7	DL_TFC7, DL_TFC37	UL_TFC7, UL_TFC31	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC24, UL_TFC25, UL_TFC30, UL_TFC31	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 312 bits
8	DL_TFC8, DL_TFC38	UL_TFC8, UL_TFC32	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC24, UL_TFC26, UL_TFC30, UL_TFC32	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 312 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 312 bits
9	DL_TFC9, DL_TFC39	UL_TFC9, UL_TFC33	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9, UL_TFC24, UL_TFC27, UL_TFC30, UL_TFC33	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 312 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 312 bits
10	DL_TFC10, DL_TFC40	UL_TFC10, UL_TFC34	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10, UL_TFC24, UL_TFC28, UL_TFC30, UL_TFC34	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 312 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 312 bits
11	DL_TFC11, DL_TFC41	UL_TFC11, UL_TFC35	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11, UL_TFC24, UL_TFC29, UL_TFC30, UL_TFC35	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 312 bits

12	DL_TFC12, DL_TFC42	UL_TFC12, UL_TFC36	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC12, UL_TFC24, UL_TFC36	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: No data RB6: No data RB7: No data RB8: 632 bits
13	DL_TFC13, DL_TFC43	UL_TFC13, UL_TFC37	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC24, UL_TFC25, UL_TFC36, UL_TFC37	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 632 bits
14	DL_TFC14, DL_TFC44	UL_TFC14, UL_TFC38	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC24, UL_TFC26, UL_TFC36, UL_TFC38	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 632 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 632 bits
15	DL_TFC15, DL_TFC45	UL_TFC15, UL_TFC39	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC12, UL_TFC15, UL_TFC24, UL_TFC27, UL_TFC36, UL_TFC39	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 632 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 632 bits
16	DL_TFC16, DL_TFC46	UL_TFC16, UL_TFC40	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC12, UL_TFC16, UL_TFC24, UL_TFC28, UL_TFC36, UL_TFC40	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 632 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 632 bits
17	DL_TFC17, DL_TFC47	UL_TFC17, UL_TFC41	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC12, UL_TFC17, UL_TFC24, UL_TFC29, UL_TFC36, UL_TFC41	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 632 bits
18	DL_TFC18, DL_TFC48	UL_TFC18, UL_TFC42	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC18, UL_TFC24, UL_TFC42	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: No data RB6: No data RB7: No data RB8: 1272 bits
19	DL_TFC19, DL_TFC49	UL_TFC19, UL_TFC43	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC18, UL_TFC19, UL_TFC24, UL_TFC25, UL_TFC42, UL_TFC43	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 1272 bits
20	DL_TFC20, DL_TFC50	UL_TFC20, UL_TFC44	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC18, UL_TFC20, UL_TFC24, UL_TFC26, UL_TFC42, UL_TFC44	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 1272 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 1272 bits

21	DL_TFC21, DL_TFC51	UL_TFC21, UL_TFC45	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC18, UL_TFC21, UL_TFC24, UL_TFC27, UL_TFC42, UL_TFC45	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 1272 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 1272 bits
22	DL_TFC22, DL_TFC52	UL_TFC22, UL_TFC46	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC18, UL_TFC22, UL_TFC24, UL_TFC28, UL_TFC42, UL_TFC46	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 1272 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 1272 bits
23	DL_TFC23, DL_TFC53	UL_TFC23, UL_TFC47	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC18, UL_TFC23, UL_TFC24, UL_TFC29, UL_TFC42, UL_TFC47	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits
24	DL_TFC24, DL_TFC54	UL_TFC18, UL_TFC42	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC18, UL_TFC24, UL_TFC42	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: No data RB6: No data RB7: No data RB8: 2552 bits
25	DL_TFC25, DL_TFC55	UL_TFC19, UL_TFC43	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC1, UL_TFC18, UL_TFC19, UL_TFC24, UL_TFC25, UL_TFC42, UL_TFC43	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 39 bits RB6: No data RB7: No data RB8: 2552 bits
26	DL_TFC26, DL_TFC56	UL_TFC20, UL_TFC44	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC2, UL_TFC18, UL_TFC20, UL_TFC24, UL_TFC26, UL_TFC42, UL_TFC44	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 1272 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: 2552 bits
27	DL_TFC27, DL_TFC57	UL_TFC21, UL_TFC45	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC3, UL_TFC18, UL_TFC21, UL_TFC24, UL_TFC27, UL_TFC42, UL_TFC45	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 1272 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: 2552 bits
28	DL_TFC28, DL_TFC58	UL_TFC22, UL_TFC46	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC4, UL_TFC18, UL_TFC22, UL_TFC24, UL_TFC28, UL_TFC42, UL_TFC46	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 1272 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: 2552 bits
29	DL_TFC29, DL_TFC59	UL_TFC23, UL_TFC47	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC24	UL_TFC0, UL_TFC5, UL_TFC18, UL_TFC23, UL_TFC24, UL_TFC29, UL_TFC42, UL_TFC47	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 1272 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 2552 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

14.2.38j.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15 the UE shall return
   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2,3 and 4: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.
   - for sub-test 5: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.
   - for sub-test 6: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 7: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 8,9 and 10: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 11: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
   - for sub-test 12: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 13: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 14,15 and 16: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 17: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
   - for sub-test 18: RLC SDUs on RB8 having the same content as sent by the SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 19: RLC SDUs on RB5 and RB8 having the same content as sent by the SS; and no data shall be received on RB6 and RB7.
   - for sub-test 20,21 and 22: RLC SDUs on RB5, RB6 and RB8 having the same content as sent by the SS; and no data shall be received on RB7.
   - for sub-test 23: RLC SDUs on RB5, RB6 , RB7 and RB8 having the same content as sent by the SS.
   - for sub-test 24: RLC SDUs on RB8 having the first 1272 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 25: RLC SDUs on RB5 having the same content as sent by the SS; RLC SDUs on RB8 having the first 1272 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 26,27 and 28: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; RLC SDUs on RB8 having the first 1272 bits equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB7.

- for sub-test 29: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and RLC SDUs on RB8 having the first 1272 bits equal to the content of the test data sent by the SS in downlink.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29th July –1st August 2002

Tdoc T1-020549

3GPP TSG-T1/SIG Meeting #24
Yokohama, Japan, 29th – 31th July 2002

Tdoc T1S-020460

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **288** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to package 3 RB test cases 14.2.5a and 14.2.7a.
Source:	⌘	Ericsson
Work item code:	⌘	TEI
Date:	⌘	2002-07-15
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change: ⌘ Definition of sub-tests incorrect

Summary of change: ⌘ **Changes to t**est case 14.2.5a:

- Removed redundant sentence before conformance requirement (same information stated in test purpose)
- Filled in missing "N/A" in Uplink and Downlink TFS tables.
- In sub-test table corrected test data size for RB7 for sub-tests 2,3 and 4 (no data shall be sent by the SS).
- Editorial change to test requirement 3.

Changes to test case 14.2.7a:

- Removed redundant sentence before conformance requirement (same information stated in test purpose)
- Filled in missing "N/A" in Uplink and Downlink TFS tables.
- Editorial change to test requirement 3.

Consequences if not approved: ⌘ Incorrect RB test cases

Clauses affected: ⌘ 14.2.5a, 14.2.7a

Other specs affected: ⌘ ☐ Other core specifications ⌘
☐ Test specifications

	☐ O&M Specifications	
Other comments:	⌘ Affects R99, REL-4 and REL-5	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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>

14.2.5a Conversational / speech / UL:(10.2, 6.7, 5.9, 4.75) DL:(10.2, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.5a.~~

14.2.5a.1 Conformance requirement

See clause 14.2.4.1.

14.2.5a.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.5a.

14.2.5a.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x65(alt. 1x0)	0x99	0x40	0x148
	TF1, bits	1x39	1x53	1x40	1x148
	TF2, bits	1x42	1x63	N/A	N/A
	TF3, bits	1x55	1x76	N/A	N/A
	TF4, bits	1x58	1x99	N/A	N/A
	TF5, bits	1x65	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0, TF0)
UL_TFC3	(TF3, TF2, TF0, TF0)
UL_TFC4	(TF4, TF3, TF0, TF0)
UL_TFC5	(TF5, TF4, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF0, TF1)
UL_TFC9	(TF3, TF2, TF0, TF1)
UL_TFC10	(TF4, TF3, TF0, TF1)
UL_TFC11	(TF5, TF4, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x99	0x40	0x148
	TF1, bits	1x39	1x53	1x40	1x148
	TF2, bits	1x42	1x63	N/A	N/A
	TF3, bits	1x55	1x76	N/A	N/A
	TF4, bits	1x58	1x99	N/A	N/A
	TF5, bits	1x65	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0, TF0)
DL_TFC3	(TF3, TF2, TF0, TF0)
DL_TFC4	(TF4, TF3, TF0, TF0)
DL_TFC5	(TF5, TF4, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF0, TF1)
DL_TFC9	(TF3, TF2, TF0, TF1)
DL_TFC10	(TF4, TF3, TF0, TF1)
DL_TFC11	(TF5, TF4, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 bits RB6: 99 bits RB7: 40 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 42 bits RB6: 53 bits RB7: 40 bits	RB5: 42 bits RB6: 53 bits RB7: No data ~~40 bits~~
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 55 bits RB6: 63 bits RB7: 40 bits	RB5: 55 bits RB6: 63 bits RB7: No data~~40 bits~~
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 58 bits RB6: 76 bits RB7: 40 bits	RB5: 58 bits RB6: 76 bits RB7: No data ~~40 bits~~
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 65 bits RB6: 99 bits RB7: 40 bits	RB5: 65 bits RB6: 99 bits RB7: 40 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 14.1.1 for test procedure.

14.2.5a.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x42) and RB6/TF1 (1x53)
   - for sub-test 3: RB5/TF3 (1x55) and RB6/TF2 (1x63)
   - for sub-test 4: RB5/TF4 (1x58) and RB6/TF3 (1x76)
   - for sub-test 5: RB5/TF5 (1x65), RB6/TF4 (1x99) and RB7/TF1 (1x40)

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.

   - for sub-test 2,3 and 4: an RLC SDU on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7.

   ~~- for sub-test 3: an RLC SDU on RB5 and RB6 having the same content as sent by SS; and no data shall be received on RB7.~~

   ~~- for sub-test 4: an RLC SDU on RB5 and RB6 having the same content as sent by SS; and no data shall be received on RB7.~~

   - for sub-test 5: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.

<End of modified section>

<Start of next modified section>

14.2.7a Conversational / speech / UL:(7.4, 6.7, 5.9, 4.75) DL:(7.4, 6.7, 5.9, 4.75) kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.7a.~~

14.2.7a.1 Conformance requirement

See clause 14.2.4.1.

14.2.7a.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.7a.

14.2.7a.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x61(alt. 1x0)	0x87	0x148
	TF1, bits	1x39	1x53	1x148
	TF2, bits	1x42	1x63	N/A
	TF3, bits	1x55	1x76	N/A
	TF4, bits	1x58	1x87	N/A
	TF5, bits	1x61	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF3, TF2, TF0)
UL_TFC4	(TF4, TF3, TF0)
UL_TFC5	(TF5, TF4, TF0)
UL_TFC6	(TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1)
UL_TFC9	(TF3, TF2, TF1)
UL_TFC10	(TF4, TF3, TF1)
UL_TFC11	(TF5, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x87	0x148
	TF1, bits	1x39	1x53	1x148
	TF2, bits	1x42	1x63	N/A
	TF3, bits	1x55	1x76	N/A
	TF4, bits	1x58	1x87	N/A
	TF5, bits	1x61	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF3, TF2, TF0)
DL_TFC4	(TF4, TF3, TF0)
DL_TFC5	(TF5, TF4, TF0)
DL_TFC6	(TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1)
DL_TFC9	(TF3, TF2, TF1)
DL_TFC10	(TF4, TF3, TF1)
DL_TFC11	(TF5, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 bits RB6: 87 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 42 bits RB6: 53 bits	RB5: 42 bits RB6: 53 bits
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 55 bits RB6: 63 bits	RB5: 55 bits RB6: 63 bits
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 58 bits RB6: 76 bits	RB5: 58 bits RB6: 76 bits
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 61 bits RB6: 87 bits	RB5: 61 bits RB6: 87 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 14.1.1 for test procedure.

14.2.7a.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x42) and RB6/TF1 (1x53)
   - for sub-test 3: RB5/TF3 (1x55) and RB6/TF2 (1x63)
   - for sub-test 4: RB5/TF4 (1x58) and RB6/TF3 (1x76)
   - for sub-test 5: RB5/TF5 (1x61) and RB6/TF4 (1x87)

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6.

   - for sub-test 2 to 5: an RLC SDU on RB5 and RB6 having the same content as sent by the SS.

   ~~- for sub-test 3: an RLC SDU on RB5 and RB6 having the same content as sent by SS.~~

   ~~- for sub-test 4: an RLC SDU on RB5 and RB6 having the same content as sent by SS.~~

   ~~- for sub-test 5: an RLC SDU on RB5 and RB6 having the same content as sent by SS.~~

<End of modified section>

3GPP TSG-T1 Meeting #16 ***T1-020550***
3GPP TSG–T1/SIG Meeting #24 ***Tdoc T1S-020386***
Yokohama, Japan, 29th July - 2nd Aug 2002

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **289** ⌘ **rev** **-** ⌘ Current version: 5.0.1 ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Update of radio bearer test cases as per new RB test method
Source:	⌘	Motorola
Work item code:	⌘	TEI
Date:	⌘	17/07/2002
Category:	⌘	**F**
Release:	⌘	*Rel-5*

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘ Current test method of radio bearers does not cope with testing of TFCIs for simultanoeous transmission of multiple radio bearers nor simultaneous signalling and user data. (Refer Ericsson CR T1S-020202r1 approved at T1_SIG#23)

Summary of change: ⌘ Updated following test cases according to the new test procedure:

14.2.38.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 20 ms TTI)

14.2.38.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / (TC, 10 ms TTI

14.2.38.3 'Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / (CC, 10 ms TTI)

14.2.38.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / (CC, 20 ms TTI

14.2.42.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH/10ms TTI

14.2.42.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH/20ms TTI

14.2.43.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB +

	Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI 14.2.44.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 10 ms TTI 14.2.44.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI 14.2.45 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.46 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.47 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.48 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.49.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 40 ms TTI 14.2.50.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI 14.2.50.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 40 ms TTI 14.2.51.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.52.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.52.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.53.1 'Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.53.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.54 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH 14.2.55 'Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS + UL:3.4 DL:3.4 kbps SRBs for DCCH
Consequences if not approved: ⌘	Limited TFC test coverage for multiple radio bearer configurations.

Clauses affected:	⌘	14.2.38, 14.2.42, 14.2.43, 14.2.44, 14.2.45, 14.2.46, 14.2.47, 14.2.48, 14.2.49, 14.2.50, 14.2.51, 14.2.52, 14.2.53, 14.2.54, 14.2.55.			
Other specs affected:	⌘	**Y** / **N** ☐ / ☐ ☐ / ☐ ☐ / ☐	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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>

14.2.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.38.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 20 ms TTI)

14.2.38.1.1 Conformance requirement

See 14.2.4.1.

14.2.38.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 20 ms TTI case.

14.2.38.1.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF0, TF1)
UL_TFC10	(TF1, TF0, TF0, TF0, TF1)
UL_TFC11	(TF2, TF1, TF1, TF0, TF1)
UL_TFC12	(TF0, TF0, TF0, TF1, TF1)
UL_TFC13	(TF1, TF0, TF0, TF1, TF1)
UL_TFC14	(TF2, TF1, TF1, TF1, TF1)
UL_TFC15	(TF0, TF0, TF0, TF2, TF1)
UL_TFC16	(TF1, TF0, TF0, TF2, TF1)
UL_TFC17	(TF2, TF1, TF1, TF2, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (8 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1 DL_TFC7	UL_TFC1 UL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~312~~	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 DL_TFC8	UL_TFC2 UL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 632~~312~~	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3 DL_TFC9	UL_TFC3 UL_TFC12	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~312~~	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4 DL_TFC10	UL_TFC4 UL_TFC13	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC9, UL_TFC10, UL_TFC12, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~312~~	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5 DL_TFC11	UL_TFC5 UL_TFC14	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC9, UL_TFC11, UL_TFC12, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 632~~312~~	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	~~DL_TFC5~~ DL_TFC3 DL_TFC9	UL_TFC6 UL_TFC15	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~632~~	RB5: No data RB6: No data RB7: No data RB8: 312~~632~~
7	DL_TFC4~~5~~ DL_TFC10	UL_TFC7 UL_TFC16	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~632~~	RB5: 39 RB6: No data RB7: No data RB8: 312~~632~~
8	DL_TFC5 DL_TFC11	UL_TFC8 UL_TFC17	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC9	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~632~~	RB5: 81 RB6: 103 RB7: 60 RB8: 312~~632~~

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the uplink TTI for RB8 is 20 ms while the downlink TTI is 40 ms then, to achieve continous data transmission in uplink the size of the uplink RLC SDU has been set such that it will be transmitted over two subsequent TTIs, i.e. UL RLC SDU SIZE has been set to two times the uplink TFS size minus 8 (the size of a 7 bit length indicator and expansion bit).

~~See 14.1.1 for test procedure.~~

14.2.38.1.4 Test requirements

See 14.1.~~1~~2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and step 15b -the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub test.

~~- for sub-test 1: RB5/TF1 (1x39).~~

~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

~~- for sub-test 3: RB8/TF1 (1x336)~~

~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

~~- for sub-test 6: RB8/TF2 (2x336)~~

~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - for sub-test 3 and 6: an RLC SDU on RB8 having the first 312 bits equal to the content sent by the SS in the downlink ~~same content as sent by SS~~; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4 and 7: an RLC SDU on RB5 ~~and RB8~~ having the same content as sent by SS and on RB8 having the first 312 bits equal to the content sent by the SS in the downlink; and no data shall be received on RB6 and RB7.

   - ~~-~~for sub-test 5 and 8: an RLC SDU on RB5, RB6, RB7 ~~and RB8~~ having the same content as sent by SS and on RB8 having the first 312 bits equal to the content sent by the SS in the downlink.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.38.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 10 ms TTI case.

See 14.2.38.1 for test procedure and test requirements. Only sub-tests 1 to 5 are applicable for the 10 ms TTI case.

14.2.38.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 20 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the convolutional channel coding and 20 ms TTI case.

See test case 14.2.38.1 for test procedure and test requirement.

14.2.38.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the convolutional channel coding and 10 ms TTI case.

See test case 14.2.38.2 for test procedure and test requirement.

<End of modified section>

<Start of next modified section>

14.2.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.42.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB / 10 ms TTI

14.2.42.1.1 Conformance requirement

See 14.2.4.1.

14.2.42.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.42 for the downlink 10 ms TTI case.

14.2.42.1.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (256 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC16	UL_TFC1, DL_TFC16	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC17	UL_TFC2, DL_TFC17	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC18	UL_TFC3, DL_TFC18	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4, DL_TFC19	UL_TFC4, DL_TFC19	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5, DL_TFC20	UL_TFC5, DL_TFC20	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	DL_TFC6, DL_TFC21	UL_TFC6, DL_TFC21	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: No data RB6: No data RB7: No data RB8: 632
7	DL_TFC7, DL_TFC22	UL_TFC7, DL_TFC22	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: 632
8	DL_TFC8, DL_TFC23	UL_TFC8, DL_TFC23	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632
9	DL_TFC9, DL_TFC24	UL_TFC9, DL_TFC24	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: No data RB6: No data RB7: No data RB8: 1272
10	DL_TFC10, DL_TFC25	UL_TFC10, DL_TFC25	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 39 RB6: No data RB7: No data RB8: 1272

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
11	DL_TFC11, DL_TFC26	UL_TFC11, DL_TFC26	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
12	DL_TFC12, DL_TFC27	UL_TFC12, DL_TFC27	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: No data RB6: No data RB7: No data RB8: 2552
13	DL_TFC13, DL_TFC28	UL_TFC13, DL_TFC28	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 39 RB6: No data RB7: No data RB8: 2552
14	DL_TFC14, DL_TFC29	UL_TFC14, DL_TFC29	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the uplink TTI for RB8 is 20 ms while the downlink TTI is 10 ms then, to achieve continous data transmission in uplink the size of the uplink RLC SDU has been set such that it will be transmitted over each TTIs, i.e. UL RLC SDU SIZE has been set to the uplink TFS size under test minus 8 (the size of a 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.42.1.4 Test requirements

See 14.1.~~1~~2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

~~- for sub-test 1: RB5/TF1 (1x39).~~

~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

~~- for sub-test 3: RB8/TF1 (1x336)~~

~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

~~- for sub-test 6: RB8/TF2 (2x336)~~

~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

- ~~for sub-test 9: RB8/TF3 (3x336)~~
- ~~for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).~~
- ~~for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).~~
- ~~for sub-test 12: RB8/TF4 (4x336)~~
- ~~for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x336).~~
- ~~for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).~~

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
- for sub-test 3~~, 6, 9 and 12~~: an RLC SDU on RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink ~~same content as sent by SS~~; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 4~~, 7, 10 and 13~~: an RLC SDU on ~~RB5 and~~ RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink ~~same content as sent by SS~~; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- ~~for~~ for sub-test 5~~, 8, 11 and 14~~: an RLC SDU on RB8 having the first 312 bits equal to the content of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and~~,~~ RB7 ~~and RB8~~ having the same content as sent by SS.
- for sub-test 6: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 7: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 8: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.
- for sub-test 9: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 10: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 11: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.
- for sub-test 12: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 13: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 14: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.42.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB / 20 ms TTI

14.2.42.2.1 Conformance requirement

See 14.2.4.1.

14.2.42.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.42 for the downlink 20 ms TTI case.

14.2.42.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (256 kbps, 20 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A
	TF6, bits	N/A	N/A	N/A	16x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF0, TF1)
DL_TFC22	(TF1, TF0, TF0, TF0, TF1)
DL_TFC23	(TF2, TF1, TF1, TF0, TF1)
DL_TFC24	(TF0, TF0, TF0, TF1, TF1)
DL_TFC25	(TF1, TF0, TF0, TF1, TF1)
DL_TFC26	(TF2, TF1, TF1, TF1, TF1)
DL_TFC27	(TF0, TF0, TF0, TF2, TF1)
DL_TFC28	(TF1, TF0, TF0, TF2, TF1)
DL_TFC29	(TF2, TF1, TF1, TF2, TF1)
DL_TFC30	(TF0, TF0, TF0, TF3, TF1)
DL_TFC31	(TF1, TF0, TF0, TF3, TF1)
DL_TFC32	(TF2, TF1, TF1, TF3, TF1)
DL_TFC33	(TF0, TF0, TF0, TF4, TF1)
DL_TFC34	(TF1, TF0, TF0, TF4, TF1)
DL_TFC35	(TF2, TF1, TF1, TF4, TF1)
DL_TFC36	(TF0, TF0, TF0, TF5, TF1)
DL_TFC37	(TF1, TF0, TF0, TF5, TF1)
DL_TFC38	(TF2, TF1, TF1, TF5, TF1)
DL_TFC39	(TF0, TF0, TF0, TF6, TF1)
DL_TFC40	(TF1, TF0, TF0, TF6, TF1)
DL_TFC41	(TF2, TF1, TF1, TF6, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC22	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 , DL_TFC23	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC24	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4, DL_TFC25	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5, DL_TFC26	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	DL_TFC6, DL_TFC27	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: No data RB6: No data RB7: No data RB8: 632
7	DL_TFC7, DL_TFC28	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: 632
8	DL_TFC8, DL_TFC29	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21 UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632
9	DL_TFC9, DL_TFC30	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: No data RB6: No data RB7: No data RB8: 1272
10	DL_TFC10, DL_TFC31	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 39 RB6: No data RB7: No data RB8: 1272

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
11	DL_TFC11, DL_TFC32	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
12	DL_TFC12, DL_TFC33	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: No data RB6: No data RB7: No data RB8: 2552
13	DL_TFC13, DL_TFC34	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27 UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 39 RB6: No data RB7: No data RB8: 2552
14	DL_TFC14, DL_TFC35	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
15	DL_TFC15, DL_TFC36	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: No data RB6: No data RB7: No data RB8: 3832
16	DL_TFC16, DL_TFC37	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27 UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: 39 RB6: No data RB7: No data RB8: 3832
17	DL_TFC17, DL_TFC38	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: 81 RB6: 103 RB7: 60 RB8: 3832
18	DL_TFC18, DL_TFC39	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: No data RB6: No data RB7: No data RB8: 5112
19	DL_TFC19, DL_TFC40	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: 39 RB6: No data RB7: No data RB8: 5112

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
20	DL_TFC20, DL_TFC41	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC21, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: 81 RB6: 103 RB7: 60 RB8: 5112
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.42.2.4 Test requirements

See 14.1.~~1~~2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

   ~~- for sub-test 1: RB5/TF1 (1x39).~~

   ~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~- for sub-test 3: RB8/TF1 (1x336)~~

   ~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

   ~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

   ~~- for sub-test 6: RB8/TF2 (2x336)~~

   ~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

   ~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

   ~~- for sub-test 9: RB8/TF3 (3x336)~~

   ~~- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).~~

   ~~- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).~~

   ~~- for sub-test 12, 15 and 18: RB8/TF4 (4x336)~~

   ~~- for sub-test 13, 16 and 19: RB5/TF1 (1x39) and RB8/TF4 (4x336).~~

   ~~- for sub-test 14, 17 and 20: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - ~~for sub-test 3, 6, 9, 12, 15 and 18: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.~~

~~- for sub-test 4, 7, 10, 13, 16 and 19: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.~~

~~- for sub-test 5, 8, 11, 14, 17 and 20: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.~~

- for sub-test 3: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4: an RLC SDU on RB5 and RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 5: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

- for sub-test 6: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 7: an RLC SDU on RB5 and RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

- for sub-test 8: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

- for sub-test 9: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 10: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 11: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 12: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 13: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 14: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 15: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 16: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 17: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 18: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 19: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 20: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.43.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB / 20 ms TTI

14.2.43.2.1 Conformance requirement

See 14.2.4.1.

14.2.43.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.43 for the downlink 20 ms TTI case.

14.2.43.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (384 kbps, ~~10~~ 20 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A
	TF6, bits	N/A	N/A	N/A	16x336	N/A
	TF7, bits	N/A	N/A	N/A	20x336	N/A
	TF8, bits	N/A	N/A	N/A	24x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF0, TF1)
DL_TFC28	(TF1, TF0, TF0, TF0, TF1)
DL_TFC29	(TF2, TF1, TF1, TF0, TF1)
DL_TFC30	(TF0, TF0, TF0, TF1, TF1)
DL_TFC31	(TF1, TF0, TF0, TF1, TF1)
DL_TFC32	(TF2, TF1, TF1, TF1, TF1)
DL_TFC33	(TF0, TF0, TF0, TF2, TF1)
DL_TFC34	(TF1, TF0, TF0, TF2, TF1)
DL_TFC35	(TF2, TF1, TF1, TF2, TF1)
DL_TFC36	(TF0, TF0, TF0, TF3, TF1)
DL_TFC37	(TF1, TF0, TF0, TF3, TF1)
DL_TFC38	(TF2, TF1, TF1, TF3, TF1)
DL_TFC39	(TF0, TF0, TF0, TF4, TF1)
DL_TFC40	(TF1, TF0, TF0, TF4, TF1)
DL_TFC41	(TF2, TF1, TF1, TF4, TF1)
DL_TFC42	(TF0, TF0, TF0, TF5, TF1)
DL_TFC43	(TF1, TF0, TF0, TF5, TF1)
DL_TFC44	(TF2, TF1, TF1, TF5, TF1)
DL_TFC45	(TF0, TF0, TF0, TF6, TF1)
DL_TFC46	(TF1, TF0, TF0, TF6, TF1)
DL_TFC47	(TF2, TF1, TF1, TF6, TF1)
DL_TFC48	(TF0, TF0, TF0, TF7, TF1)
DL_TFC49	(TF1, TF0, TF0, TF7, TF1)
DL_TFC50	(TF2, TF1, TF1, TF7, TF1)
DL_TFC51	(TF0, TF0, TF0, TF8, TF1)
DL_TFC52	(TF1, TF0, TF0, TF8, TF1)
DL_TFC53	(TF2, TF1, TF1, TF8, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC28	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC29	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC30	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: No data RB6: No data RB7: No data RB8: 312

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
4	DL_TFC4, DL_TFC31	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15,	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5, DL_TFC32	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18 UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	DL_TFC6, DL_TFC33	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: No data RB6: No data RB7: No data RB8: 632
7	DL_TFC7, DL_TFC34	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: 632
8	DL_TFC8, DL_TFC35	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632
9	DL_TFC9, DL_TFC36	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: No data RB6: No data RB7: No data RB8: 1272
10	DL_TFC10, DL_TFC37	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24 UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 39 RB6: No data RB7: No data RB8: 1272
11	DL_TFC11, DL_TFC38	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952~~1272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
12	DL_TFC12, DL_TFC39	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: No data RB6: No data RB7: No data RB8: 2552

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
13	DL_TFC13, DL_TFC40	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 39 RB6: No data RB7: No data RB8: 2552
14	DL_TFC14, DL_TFC41	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
15	DL_TFC15, DL_TFC42	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: No data RB6: No data RB7: No data RB8: 3832
16	DL_TFC16, DL_TFC43	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC27, , UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27 UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: 39 RB6: No data RB7: No data RB8: 3832
17	DL_TFC17, DL_TFC44	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~3832~~	RB5: 81 RB6: 103 RB7: 60 RB8: 3832
18	DL_TFC18, DL_TFC45	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: No data RB6: No data RB7: No data RB8: 5112
19	DL_TFC19, DL_TFC46	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: 39 RB6: No data RB7: No data RB8: 5112
20	DL_TFC20, DL_TFC47	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~5112~~	RB5: 81 RB6: 103 RB7: 60 RB8: 5112
21	DL_TFC21, DL_TFC48	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~6392~~	RB5: No data RB6: No data RB7: No data RB8: 6392

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
22	DL_TFC22, DL_TFC49	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~6392~~	RB5: 39 RB6: No data RB7: No data RB8: 6392
23	DL_TFC23, DL_TFC50	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~6392~~	RB5: 81 RB6: 103 RB7: 60 RB8: 6392
24	DL_TFC24, DL_TFC51	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~7672~~	RB5: No data RB6: No data RB7: No data RB8: 7672
25	DL_TFC25, DL_TFC52	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~7672~~	RB5: 39 RB6: No data RB7: No data RB8: 7672
26	DL_TFC26, DL_TFC53	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC27, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~7672~~	RB5: 81 RB6: 103 RB7: 60 RB8: 7672
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.43.2.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

   ~~- for sub-test 1: RB5/TF1 (1x39).~~

   ~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~- for sub-test 3: RB8/TF1 (1x336)~~

   ~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

   ~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

~~- for sub-test 6: RB8/TF2 (2x336)~~

~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

~~- for sub-test 9: RB8/TF3 (3x336)~~

~~- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).~~

~~- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).~~

~~- for sub-test 12, 15, 18, 21 and 24: RB8/TF4 (4x336)~~

~~- for sub-test 13, 16, 19, 22 and 25: RB5/TF1 (1x39) and RB8/TF4 (4x336).~~

~~- for sub-test 14, 17, 20, 23 and 26: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - ~~for sub-test 3, 6, 9, 12, 15, 18, 21 and 24: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.~~

   ~~- for sub-test 4, 7, 10, 13, 16, 19, 22 and 25: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.~~

   ~~- for sub-test 5, 8, 11, 14, 17, 20, 23 and 26: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.~~

   - for sub-test 3: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4: an RLC SDU on RB5 and RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

   - for sub-test 5: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

   - for sub-test 6: an RLC SDU on RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 7: an RLC SDU on RB5 and RB8 having the content equal to the content of the test data sent by the SS in downlink; and no data shall be received on RB6 and RB7.

   - for sub-test 8: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

   - for sub-test 9: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 10: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

   - for sub-test 11: an RLC SDU on RB8 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

   - for sub-test 12: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 13: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 14: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 15: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 16: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 17: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 18: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 19: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 20: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 21: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 22: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 23: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 24: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 25: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 26: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.44.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB / 10 ms TTI

14.2.44.1.1 Conformance requirement

See 14.2.4.1.

14.2.44.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.44 for the downlink 10 ms TTI case.

14.2.44.1.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (2048 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x656	0x148
	TF1, bits	1x39	1x103	1x60	1x656	1x148
	TF2, bits	1x81	N/A	N/A	2x656	N/A
	TF3, bits	N/A	N/A	N/A	4x656	N/A
	TF4, bits	N/A	N/A	N/A	8x656	N/A
	TF5, bits	N/A	N/A	N/A	12x656	N/A
	TF6, bits	N/A	N/A	N/A	16x656	N/A
	TF7, bits	N/A	N/A	N/A	20x656	N/A
	TF8, bits	N/A	N/A	N/A	24x656	N/A
	TF9, bits	N/A	N/A	N/A	28x656	N/A
	TF10, bits	N/A	N/A	N/A	32x656	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF9, TF0)
DL_TFC28	(TF1, TF0, TF0, TF9, TF0)
DL_TFC29	(TF2, TF1, TF1, TF9, TF0)
DL_TFC30	(TF0, TF0, TF0, TF10, TF0)
DL_TFC31	(TF1, TF0, TF0, TF10, TF0)
DL_TFC32	(TF2, TF1, TF1, TF10, TF0)
DL_TFC33	(TF0, TF0, TF0, TF0, TF1)
DL_TFC34	(TF1, TF0, TF0, TF0, TF1)
DL_TFC35	(TF2, TF1, TF1, TF0, TF1)
DL_TFC36	(TF0, TF0, TF0, TF1, TF1)
DL_TFC37	(TF1, TF0, TF0, TF1, TF1)
DL_TFC38	(TF2, TF1, TF1, TF1, TF1)
DL_TFC39	(TF0, TF0, TF0, TF2, TF1)
DL_TFC40	(TF1, TF0, TF0, TF2, TF1)
DL_TFC41	(TF2, TF1, TF1, TF2, TF1)
DL_TFC42	(TF0, TF0, TF0, TF3, TF1)
DL_TFC43	(TF1, TF0, TF0, TF3, TF1)
DL_TFC44	(TF2, TF1, TF1, TF3, TF1)
DL_TFC45	(TF0, TF0, TF0, TF4, TF1)

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC46	(TF1, TF0, TF0, TF4, TF1)
DL_TFC47	(TF2, TF1, TF1, TF4, TF1)
DL_TFC48	(TF0, TF0, TF0, TF5, TF1)
DL_TFC49	(TF1, TF0, TF0, TF5, TF1)
DL_TFC50	(TF2, TF1, TF1, TF5, TF1)
DL_TFC51	(TF0, TF0, TF0, TF6, TF1)
DL_TFC52	(TF1, TF0, TF0, TF6, TF1)
DL_TFC53	(TF2, TF1, TF1, TF6, TF1)
DL_TFC54	(TF0, TF0, TF0, TF7, TF1)
DL_TFC55	(TF1, TF0, TF0, TF7, TF1)
DL_TFC56	(TF2, TF1, TF1, TF7, TF1)
DL_TFC57	(TF0, TF0, TF0, TF8, TF1)
DL_TFC58	(TF1, TF0, TF0, TF8, TF1)
DL_TFC59	(TF2, TF1, TF1, TF8, TF1)
DL_TFC60	(TF0, TF0, TF0, TF9, TF1)
DL_TFC61	(TF1, TF0, TF0, TF9, TF1)
DL_TFC62	(TF2, TF1, TF1, TF9, TF1)
DL_TFC63	(TF0, TF0, TF0, TF10, TF1)
DL_TFC64	(TF1, TF0, TF0, TF10, TF1)
DL_TFC65	(TF2, TF1, TF1, TF10, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC34	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC35	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC36	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~	RB5: No data RB6: No data RB7: No data RB8: 632
4	DL_TFC4, DL_TFC37	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~	RB5: 39 RB6: No data RB7: No data RB8: 632
5	DL_TFC5, DL_TFC38	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632
6	DL_TFC6, DL_TFC39	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~1272~~	RB5: No data RB6: No data RB7: No data RB8: 1272

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
7	DL_TFC7, DL_TFC40	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632~~1272~~	RB5: 39 RB6: No data RB7: No data RB8: 1272
8	DL_TFC8, DL_TFC41	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632~~1272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
9	DL_TFC9, DL_TFC42	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: No data RB6: No data RB7: No data RB8: 2552
10	DL_TFC10, DL_TFC43	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 39 RB6: No data RB7: No data RB8: 2552
11	DL_TFC11, DL_TFC44	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
12	DL_TFC12, DL_TFC45	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: No data RB6: No data RB7: No data RB8: 5112
13	DL_TFC13, DL_TFC46	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: 39 RB6: No data RB7: No data RB8: 5112
14	DL_TFC14, DL_TFC47	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27 UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: 81 RB6: 103 RB7: 60 RB8: 5112
15	DL_TFC15, DL_TFC48	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: No data RB6: No data RB7: No data RB8: 7672

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
16	DL_TFC16, DL_TFC49	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: 39 RB6: No data RB7: No data RB8: 7672
17	DL_TFC17, DL_TFC50	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: 81 RB6: 103 RB7: 60 RB8: 7672
18	DL_TFC18, DL_TFC51	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: No data RB6: No data RB7: No data RB8: 10232
19	DL_TFC19, DL_TFC52	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: 39 RB6: No data RB7: No data RB8: 10232
20	DL_TFC20, DL_TFC53	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: 81 RB6: 103 RB7: 60 RB8: 10232
21	DL_TFC21, DL_TFC54	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: No data RB6: No data RB7: No data RB8: 12792
22	DL_TFC22, DL_TFC55	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: 39 RB6: No data RB7: No data RB8: 12792
23	DL_TFC23, DL_TFC56	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: 81 RB6: 103 RB7: 60 RB8: 12792
24	DL_TFC24, DL_TFC57	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: No data RB6: No data RB7: No data RB8: 15352

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
25	DL_TFC25, DL_TFC58	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: 39 RB6: No data RB7: No data RB8: 15352
26	DL_TFC26, DL_TFC59	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: 81 RB6: 103 RB7: 60 RB8: 15352
27	DL_TFC27, DL_TFC60	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: No data RB6: No data RB7: No data RB8: 17912
28	DL_TFC28, DL_TFC61	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: 39 RB6: No data RB7: No data RB8: 17912
29	DL_TFC29, DL_TFC62	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27 UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: 81 RB6: 103 RB7: 60 RB8: 17912
30	DL_TFC30, DL_TFC63	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: No data RB6: No data RB7: No data RB8: 20472
31	DL_TFC31, DL_TFC64	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: 39 RB6: No data RB7: No data RB8: 20472
32	DL_TFC32, DL_TFC65	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC33, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27 UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: 81 RB6: 103 RB7: 60 RB8: 20472

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the uplink TTI for RB8 is 20 ms while the downlink TTI is 10 ms then, to achieve continous data transmission in uplink the size of the uplink RLC SDU has been set such that it will be transmitted over each TTI, ie the uplink TFS size minus 8 bits (size of 7 bit length indicator and expansion bit).

~~See 14.1.1 for test procedure.~~

14.2.44.1.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

   - ~~for sub-test 1: RB5/TF1 (1x39).~~

   ~~for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~for sub-test 3: RB8/TF1 (1x336)~~

   ~~for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

   ~~for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

   ~~for sub-test 6: RB8/TF2 (2x336)~~

   ~~for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

   ~~for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

   ~~for sub-test 9: RB8/TF3 (4x336)~~

   ~~for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (4x336).~~

   ~~for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (4x336).~~

   ~~for sub-test 12,15,18,21,24,27,30: RB8/TF4 (8x336)~~

   ~~for sub-test 13,16,19,22,25,28,31: RB5/TF1 (1x39) and RB8/TF4 (8x336).~~

   ~~for sub-test 14,17,20,23,26,29,32: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (8x336).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   ~~for sub-test 3, 6, 9, 12, 15, 18, 21, 24, 27, 30: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.~~

   ~~for sub-test 4, 7, 10, 13, 16, 19, 22, 25, 28, 31: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.~~

   ~~for sub-test 5, 8, 11, 14, 17, 20, 23, 26, 29, 32: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.~~

   - for sub-test 3: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 5: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 6: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 7: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 8: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 9: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 10: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 11: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 12: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 13: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 14: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 15: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 16: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 17: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 18: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 19: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 20: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 21: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 22: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 23: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 24: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 25: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 26: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 27: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 28: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 29: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 30: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 31: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 32: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.44.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB / 20 ms TTI

14.2.44.2.1 Conformance requirement

See 14.2.4.1.

14.2.44.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.44 for the downlink 20 ms TTI case.

14.2.44.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (2048 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x656	0x148
	TF1, bits	1x39	1x103	1x60	1x656	1x148
	TF2, bits	1x81	N/A	N/A	2x656	N/A
	TF3, bits	N/A	N/A	N/A	4x656	N/A
	TF4, bits	N/A	N/A	N/A	8x656	N/A
	TF5, bits	N/A	N/A	N/A	12x656	N/A
	TF6, bits	N/A	N/A	N/A	16x656	N/A
	TF7, bits	N/A	N/A	N/A	20x656	N/A
	TF8, bits	N/A	N/A	N/A	24x656	N/A
	TF9, bits	N/A	N/A	N/A	28x656	N/A
	TF10, bits	N/A	N/A	N/A	32x656	N/A
	TF11, bits	N/A	N/A	N/A	36x656	N/A
	TF12, bits	N/A	N/A	N/A	40x656	N/A
	TF13, bits	N/A	N/A	N/A	44x656	N/A
	TF14, bits	N/A	N/A	N/A	48x656	N/A
	TF15, bits	N/A	N/A	N/A	52x656	N/A
	TF16, bits	N/A	N/A	N/A	56x656	N/A
	TF17, bits	N/A	N/A	N/A	60x656	N/A
	TF18, bits	N/A	N/A	N/A	64x656	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF9, TF0)
DL_TFC28	(TF1, TF0, TF0, TF9, TF0)
DL_TFC29	(TF2, TF1, TF1, TF9, TF0)
DL_TFC30	(TF0, TF0, TF0, TF10, TF0)
DL_TFC31	(TF1, TF0, TF0, TF10, TF0)
DL_TFC32	(TF2, TF1, TF1, TF10, TF0)
DL_TFC33	(TF0, TF0, TF0, TF11, TF0)
DL_TFC34	(TF1, TF0, TF0, TF11, TF0)
DL_TFC35	(TF2, TF1, TF1, TF11, TF0)
DL_TFC36	(TF0, TF0, TF0, TF12, TF0)
DL_TFC37	(TF1, TF0, TF0, TF12, TF0)
DL_TFC38	(TF2, TF1, TF1, TF12, TF0)
DL_TFC39	(TF0, TF0, TF0, TF13, TF0)
DL_TFC40	(TF1, TF0, TF0, TF13, TF0)
DL_TFC41	(TF2, TF1, TF1, TF13, TF0)
DL_TFC42	(TF0, TF0, TF0, TF14, TF0)
DL_TFC43	(TF1, TF0, TF0, TF14, TF0)
DL_TFC44	(TF2, TF1, TF1, TF14, TF0)
DL_TFC45	(TF0, TF0, TF0, TF15, TF0)
DL_TFC46	(TF1, TF0, TF0, TF15, TF0)
DL_TFC47	(TF2, TF1, TF1, TF15, TF0)
DL_TFC48	(TF0, TF0, TF0, TF16, TF0)
DL_TFC49	(TF1, TF0, TF0, TF16, TF0)
DL_TFC50	(TF2, TF1, TF1, TF16, TF0)
DL_TFC51	(TF0, TF0, TF0, TF17, TF0)
DL_TFC52	(TF1, TF0, TF0, TF17, TF0)
DL_TFC53	(TF2, TF1, TF1, TF17, TF0)
DL_TFC54	(TF0, TF0, TF0, TF18, TF0)
DL_TFC55	(TF1, TF0, TF0, TF18, TF0)
DL_TFC56	(TF2, TF1, TF1, TF18, TF0)
DL_TFC57	(TF0, TF0, TF0, TF0, TF1)
DL_TFC58	(TF1, TF0, TF0, TF0, TF1)
DL_TFC59	(TF2, TF1, TF1, TF0, TF1)
DL_TFC60	(TF0, TF0, TF0, TF1, TF1)

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC61	(TF1, TF0, TF0, TF1, TF1)
DL_TFC61	(TF2, TF1, TF1, TF1, TF1)
DL_TFC63	(TF0, TF0, TF0, TF2, TF1)
DL_TFC64	(TF1, TF0, TF0, TF2, TF1)
DL_TFC65	(TF2, TF1, TF1, TF2, TF1)
DL_TFC66	(TF0, TF0, TF0, TF3, TF1)
DL_TFC67	(TF1, TF0, TF0, TF3, TF1)
DL_TFC68	(TF2, TF1, TF1, TF3, TF1)
DL_TFC69	(TF0, TF0, TF0, TF4, TF1)
DL_TFC70	(TF1, TF0, TF0, TF4, TF1)
DL_TFC71	(TF2, TF1, TF1, TF4, TF1)
DL_TFC72	(TF0, TF0, TF0, TF5, TF1)
DL_TFC73	(TF1, TF0, TF0, TF5, TF1)
DL_TFC74	(TF2, TF1, TF1, TF5, TF1)
DL_TFC75	(TF0, TF0, TF0, TF6, TF1)
DL_TFC76	(TF1, TF0, TF0, TF6, TF1)
DL_TFC77	(TF2, TF1, TF1, TF6, TF1)
DL_TFC78	(TF0, TF0, TF0, TF7, TF1)
DL_TFC79	(TF1, TF0, TF0, TF7, TF1)
DL_TFC80	(TF2, TF1, TF1, TF7, TF1)
DL_TFC81	(TF0, TF0, TF0, TF8, TF1)
DL_TFC82	(TF1, TF0, TF0, TF8, TF1)
DL_TFC83	(TF2, TF1, TF1, TF8, TF1)
DL_TFC84	(TF0, TF0, TF0, TF9, TF1)
DL_TFC85	(TF1, TF0, TF0, TF9, TF1)
DL_TFC86	(TF2, TF1, TF1, TF9, TF1)
DL_TFC87	(TF0, TF0, TF0, TF10, TF1)
DL_TFC88	(TF1, TF0, TF0, TF10, TF1)
DL_TFC89	(TF2, TF1, TF1, TF10, TF1)
DL_TFC90	(TF0, TF0, TF0, TF11, TF1)
DL_TFC91	(TF1, TF0, TF0, TF11, TF1)
DL_TFC92	(TF2, TF1, TF1, TF11, TF1)
DL_TFC93	(TF0, TF0, TF0, TF12, TF1)
DL_TFC94	(TF1, TF0, TF0, TF12, TF1)
DL_TFC95	(TF2, TF1, TF1, TF12, TF1)
DL_TFC96	(TF0, TF0, TF0, TF13, TF1)
DL_TFC97	(TF1, TF0, TF0, TF13, TF1)
DL_TFC98	(TF2, TF1, TF1, TF13, TF1)
DL_TFC99	(TF0, TF0, TF0, TF14, TF1)
DL_TFC100	(TF1, TF0, TF0, TF14, TF1)
DL_TFC101	(TF2, TF1, TF1, TF14, TF1)
DL_TFC102	(TF0, TF0, TF0, TF15, TF1)
DL_TFC103	(TF1, TF0, TF0, TF15, TF1)
DL_TFC104	(TF2, TF1, TF1, TF15, TF1)
DL_TFC105	(TF0, TF0, TF0, TF16, TF1)
DL_TFC106	(TF1, TF0, TF0, TF16, TF1)
DL_TFC107	(TF2, TF1, TF1, TF16, TF1)
DL_TFC108	(TF0, TF0, TF0, TF17, TF1)
DL_TFC109	(TF1, TF0, TF0, TF17, TF1)
DL_TFC110	(TF2, TF1, TF1, TF17, TF1)
DL_TFC111	(TF0, TF0, TF0, TF18, TF1)
DL_TFC112	(TF1, TF0, TF0, TF18, TF1)
DL_TFC113	(TF2, TF1, TF1, TF18, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC58	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC59	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC60	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~	RB5: No data RB6: No data RB7: No data RB8: 632
4	DL_TFC4, DL_TFC61	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18 UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312~~632~~	RB5: 39 RB6: No data RB7: No data RB8: 632
5	DL_TFC5, DL_TFC62	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312~~632~~	RB5: 81 RB6: 103 RB7: 60 RB8: 632
6	DL_TFC6, DL_TFC63	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 6321~~272~~	RB5: No data RB6: No data RB7: No data RB8: 1272
7	DL_TFC7, DL_TFC64	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 6321~~272~~	RB5: 39 RB6: No data RB7: No data RB8: 1272
8	DL_TFC8, DL_TFC65	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 6321~~272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 1272
9	DL_TFC9, DL_TFC66	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 12722~~552~~	RB5: No data RB6: No data RB7: No data RB8: 2552
10	DL_TFC10, DL_TFC67	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 12722~~552~~	RB5: 39 RB6: No data RB7: No data RB8: 2552

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
11	DL_TFC11, DL_TFC68	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9 UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1272~~2552~~	RB5: 81 RB6: 103 RB7: 60 RB8: 2552
12	DL_TFC12, DL_TFC69	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: No data RB6: No data RB7: No data RB8: 5112
13	DL_TFC13, DL_TFC70	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: 39 RB6: No data RB7: No data RB8: 5112
14	DL_TFC14, DL_TFC71	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~5112~~	RB5: 81 RB6: 103 RB7: 60 RB8: 5112
15	DL_TFC15, DL_TFC72	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: No data RB6: No data RB7: No data RB8: 7672
16	DL_TFC16, DL_TFC73	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: 39 RB6: No data RB7: No data RB8: 7672
17	DL_TFC17, DL_TFC74	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27 UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~7672~~	RB5: 81 RB6: 103 RB7: 60 RB8: 7672
18	DL_TFC18, DL_TFC75	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: No data RB6: No data RB7: No data RB8: 10232
19	DL_TFC19, DL_TFC76	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: 39 RB6: No data RB7: No data RB8: 10232

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
20	DL_TFC20, DL_TFC77	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~10232~~	RB5: 81 RB6: 103 RB7: 60 RB8: 10232
21	DL_TFC21, DL_TFC78	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: No data RB6: No data RB7: No data RB8: 12792
22	DL_TFC22, DL_TFC79	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: 39 RB6: No data RB7: No data RB8: 12792
23	DL_TFC23, DL_TFC80	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~12792~~	RB5: 81 RB6: 103 RB7: 60 RB8: 12792
24	DL_TFC24, DL_TFC81	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: No data RB6: No data RB7: No data RB8: 15352
25	DL_TFC25, DL_TFC82	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: 39 RB6: No data RB7: No data RB8: 15352
26	DL_TFC26, DL_TFC83	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~15352~~	RB5: 81 RB6: 103 RB7: 60 RB8: 15352
27	DL_TFC27, DL_TFC84	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: No data RB6: No data RB7: No data RB8: 17912
28	DL_TFC28, DL_TFC85	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: 39 RB6: No data RB7: No data RB8: 17912

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
29	DL_TFC29, DL_TFC86	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~17912~~	RB5: 81 RB6: 103 RB7: 60 RB8: 17912
30	DL_TFC30, DL_TFC87	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: No data RB6: No data RB7: No data RB8: 20472
31	DL_TFC31, DL_TFC88	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: 39 RB6: No data RB7: No data RB8: 20472
32	DL_TFC32, DL_TFC89	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~20472~~	RB5: 81 RB6: 103 RB7: 60 RB8: 20472
33	DL_TFC33, DL_TFC90	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~23032~~	RB5: No data RB6: No data RB7: No data RB8: 23032
34	DL_TFC34, DL_TFC91	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~23032~~	RB5: 39 RB6: No data RB7: No data RB8: 23032
35	DL_TFC35, DL_TFC92	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~23032~~	RB5: 81 RB6: 103 RB7: 60 RB8: 23032
36	DL_TFC36, DL_TFC93	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~25592~~	RB5: No data RB6: No data RB7: No data RB8: 25592
37	DL_TFC37, DL_TFC94	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~25592~~	RB5: 39 RB6: No data RB7: No data RB8: 25592

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
38	DL_TFC38, DL_TFC95	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~25592~~	RB5: 81 RB6: 103 RB7: 60 RB8: 25592
39	DL_TFC39, DL_TFC96	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~28152~~	RB5: No data RB6: No data RB7: No data RB8: 28152
40	DL_TFC40, DL_TFC97	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~28152~~	RB5: 39 RB6: No data RB7: No data RB8: 28152
41	DL_TFC41, DL_TFC98	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~28152~~	RB5: 81 RB6: 103 RB7: 60 RB8: 28152
42	DL_TFC42, DL_TFC99	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~30712~~	RB5: No data RB6: No data RB7: No data RB8: 30712
43	DL_TFC43, DL_TFC100	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~30712~~	RB5: 39 RB6: No data RB7: No data RB8: 30712
44	DL_TFC44, DL_TFC101	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~30712~~	RB5: 81 RB6: 103 RB7: 60 RB8: 30712
45	DL_TFC45, DL_TFC102	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~33272~~	RB5: No data RB6: No data RB7: No data RB8: 33272
46	DL_TFC46, DL_TFC103	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~33272~~	RB5: 39 RB6: No data RB7: No data RB8: 33272

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
47	DL_TFC47, DL_TFC104	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~33272~~	RB5: 81 RB6: 103 RB7: 60 RB8: 33272
48	DL_TFC48, DL_TFC105	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~35832~~	RB5: No data RB6: No data RB7: No data RB8: 35832
49	DL_TFC49, DL_TFC106	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~35832~~	RB5: 39 RB6: No data RB7: No data RB8: 35832
50	DL_TFC50, DL_TFC107	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~35832~~	RB5: 81 RB6: 103 RB7: 60 RB8: 35832
51	DL_TFC51, DL_TFC108	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~38392~~	RB5: No data RB6: No data RB7: No data RB8: 38392
52	DL_TFC52, DL_TFC109	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~38392~~	RB5: 39 RB6: No data RB7: No data RB8: 38392
53	DL_TFC53, DL_TFC110	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~38392~~	RB5: 81 RB6: 103 RB7: 60 RB8: 38392
54	DL_TFC54, DL_TFC111	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~40952~~	RB5: No data RB6: No data RB7: No data RB8: 40952
55	DL_TFC55, DL_TFC112	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 2552~~40952~~	RB5: 39 RB6: No data RB7: No data RB8: 40952

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
56	DL_TFC56, DL_TFC113	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC57, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2552~~40952~~	RB5: 81 RB6: 103 RB7: 60 RB8: 40952
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

~~See 14.1.1 for test procedure.~~

14.2.44.2.4 Test requirements

See 14.1.~~1~~2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

~~- for sub-test 1: RB5/TF1 (1x39).~~

~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

~~- for sub-test 3: RB8/TF1 (1x336)~~

~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).~~

~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).~~

~~- for sub-test 6: RB8/TF2 (2x336)~~

~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).~~

~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).~~

~~- for sub-test 9: RB8/TF3 (4x336)~~

~~- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (4x336).~~

~~- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (4x336).~~

~~- for sub-test 12,15,18,21,24,27,30,33,36,39,42: RB8/TF4 (8x336)~~

~~- for sub-test 13,16,19,22,25,28,31,34,37,40,43: RB5/TF1 (1x39) and RB8/TF4 (8x336).~~

~~- for sub-test 14,17,20,23,26,29,32,35,38,41,44: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (8x336).~~

3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

~~- for sub-test 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.~~

~~- for sub-test 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.~~

~~- for sub-test 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.~~

- for sub-test 3: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 5: an RLC SDU on RB8 having the content equal to the first 312 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 6: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 7: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 8: an RLC SDU on RB8 having the content equal to the first 632 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 9: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 10: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 11: an RLC SDU on RB8 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 12: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 13: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 14: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 15: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 16: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 17: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 18: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 19: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 20: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 21: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 22: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 23: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 24: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 25: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 26: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 27: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 28: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 29: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 30: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 31: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 32: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 33: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 34: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 35: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 36: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 37: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 38: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 39: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 40: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 41: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 42: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 43: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 44: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 45: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 46: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 47: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 48: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 49: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 50: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 51: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 52: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 53: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

- for sub-test 54: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 55: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 56: an RLC SDU on RB8 having the content equal to the first 2552 bits of the test data sent by the SS in downlink; an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.45 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.45.1 Conformance requirement

See 14.2.4.1.

14.2.45.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.45.

14.2.45.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (57.6 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	2x576	N/A
	TF3, bits	N/A	N/A	N/A	3x576	N/A
	TF4, bits	N/A	N/A	N/A	4x576	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (57.6 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	2x576	N/A
	TF3, bits	N/A	N/A	N/A	3x576	N/A
	TF4, bits	N/A	N/A	N/A	4x576	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC16	UL_TFC1, DL_TFC16	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 , DL_TFC17	UL_TFC2, DL_TFC17	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC18	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 576~~336~~
4	DL_TFC4, DL_TFC19	UL_TFC4, DL_TFC19	DL_TFC0, DL_TFC15, , UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3 UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 576
5	DL_TFC5, DL_TFC20	UL_TFC5, DL_TFC20	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 576
6	DL_TFC6 , DL_TFC21	UL_TFC6, DL_TFC21	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 1152	RB5: No data RB6: No data RB7: No data RB8: 1152
7	DL_TFC7, DL_TFC22	UL_TFC7, DL_TFC22	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 1152	RB5: 39 RB6: No data RB7: No data RB8: 1152
8	DL_TFC8, DL_TFC23	UL_TFC8, DL_TFC23	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 1152	RB5: 81 RB6: 103 RB7: 60 RB8: 1152
9	DL_TFC9, DL_TFC24	UL_TFC9, DL_TFC24	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1728	RB5: No data RB6: No data RB7: No data RB8: 1728
10	DL_TFC10, DL_TFC25	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1728	RB5: 39 RB6: No data RB7: No data RB8: 1728

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
11	DL_TFC11, DL_TFC26	UL_TFC11, DL_TFC26	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1728	RB5: 81 RB6: 103 RB7: 60 RB8: 1728
12	DL_TFC12, DL_TFC27	UL_TFC12, DL_TFC27	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2304	RB5: No data RB6: No data RB7: No data RB8: 2304
13	DL_TFC13, DL_TFC28	UL_TFC13, DL_TFC28	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC287	RB5: 39 RB6: 103 RB7: 60 RB8: 2304	RB5: 39 RB6: No data RB7: No data RB8: 2304
14	DL_TFC14, DL_TFC29	UL_TFC14, DL_TFC29	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2304	RB5: 81 RB6: 103 RB7: 60 RB8: 2304
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test .						

~~See 14.1.1 for test procedure.~~

14.2.45.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified in the actual sub test.

~~- for sub-test 1: RB5/TF1 (1x39).~~

~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

~~- for sub-test 3: RB8/TF1 (1x576)~~

~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x576).~~

~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x576).~~

~~- for sub-test 6: RB8/TF2 (2x576)~~

~~- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x576).~~

~~- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x576).~~

~~- for sub-test 9: RB8/TF2 (3x576)~~

~~- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x576).~~

~~- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x576).~~

~~- for sub-test 12: RB8/TF2 (4x576)~~

~~- for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x576).~~

~~- for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x576).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

   - ~~—~~for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.46 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.46.1 Conformance requirement

See 14.2.4.1.

14.2.46.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.46.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 64 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.46.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (14.4 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x320	0x148
	TF1, bits	1x39	1x103	1x60	1x320	1x148
	TF2, bits	1x81	N/A	N/A	2x320	N/A
	TF3, bits	N/A	N/A	N/A	4x320	N/A
	TF4, bits	N/A	N/A	N/A	8x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC16	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC17	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC18	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 320 (note 2)
4	DL_TFC4, DL_TFC19	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 320 (note 2)
5	DL_TFC5, DL_TFC20	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 320 (note 2)
6	DL_TFC6, DL_TFC21	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 640 (note 3)
7	DL_TFC7, DL_TFC22	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 640 (note 3)
8	DL_TFC8, DL_TFC23	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 640 (note 3)
9	DL_TFC9, DL_TFC24	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 1280 (note 4)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
10	DL_TFC10, DL_TFC25	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9 UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 1280 (note 4)
11	DL_TFC11, DL_TFC26	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 1280 (note 4)
12	DL_TFC12, DL_TFC27	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 2560 (note 5)
13	DL_TFC13, DL_TFC28	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 2560 (note 5)
14	DL_TFC14, DL_TFC29	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 2560 (note 5)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB8: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return one RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB8: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB8: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB8: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test

~~See 14.1.1 for test procedure.~~

14.2.46.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified in the actual sub test.

~~for sub-test 1, 4, 7, 10 and 13: RB5/TF1 (1x39).~~

~~- for sub-test 2, 5, 8, 11 and 14: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

3. At step 15 the UE shall return

   - for sub-test 3, 6, 9 and 12: no data on RB5, RB6 and RB7.
   - for sub-test 1, 4, 7, 10 and 13: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2, 5, 8, 11 and 14: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.
   - for sub-test 1 to 2: no data on RB8.
   - for sub-test 3 to 5: an RLC SDU on RB8 having the same content as sent by the SS.
   - ~~—~~for sub-test 6 to 14: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.47 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.47.1 Conformance requirement

See 14.2.4.1.

14.2.47.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.47.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 128 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.47.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (14.4 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x320	0x148
	TF1, bits	1x39	1x103	1x60	1x320	1x148
	TF2, bits	1x81	N/A	N/A	2x320	N/A
	TF3, bits	N/A	N/A	N/A	4x320	N/A
	TF4, bits	N/A	N/A	N/A	8x320	N/A
	TF5, bits	N/A	N/A	N/A	16x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF0, TF1)
DL_TFC19	(TF1, TF0, TF0, TF0, TF1)
DL_TFC20	(TF2, TF1, TF1, TF0, TF1)
DL_TFC21	(TF0, TF0, TF0, TF1, TF1)
DL_TFC22	(TF1, TF0, TF0, TF1, TF1)
DL_TFC23	(TF2, TF1, TF1, TF1, TF1)
DL_TFC24	(TF0, TF0, TF0, TF2, TF1)
DL_TFC25	(TF1, TF0, TF0, TF2, TF1)
DL_TFC26	(TF2, TF1, TF1, TF2, TF1)
DL_TFC27	(TF0, TF0, TF0, TF3, TF1)
DL_TFC28	(TF1, TF0, TF0, TF3, TF1)
DL_TFC29	(TF2, TF1, TF1, TF3, TF1)
DL_TFC30	(TF0, TF0, TF0, TF4, TF1)
DL_TFC31	(TF1, TF0, TF0, TF4, TF1)
DL_TFC32	(TF2, TF1, TF1, TF4, TF1)
DL_TFC33	(TF0, TF0, TF0, TF5, TF1)
DL_TFC34	(TF1, TF0, TF0, TF5, TF1)
DL_TFC35	(TF2, TF1, TF1, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC19	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC20	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC21	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 320 (note 2)
4	DL_TFC4, DL_TFC22	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 320 (note 2)
5	DL_TFC5, DL_TFC23	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 320 (note 2)
6	DL_TFC6, DL_TFC24	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 640 (note 3)
7	DL_TFC7, DL_TFC25	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 640 (note 3)
8	DL_TFC8, DL_TFC26	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 640 (note 3)
9	DL_TFC9, DL_TFC27	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 1280 (note 4)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
10	DL_TFC10, DL_TFC28	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 1280 (note 4)
11	DL_TFC11, DL_TFC29	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 1280 (note 4)
12	DL_TFC12, DL_TFC30	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 2560 (note 5)
13	DL_TFC13, DL_TFC31	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 2560 (note 5)
14	DL_TFC14, DL_TFC32	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 2560 (note 5)
15	DL_TFC15, DL_TFC33	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 5120 (note 6)
16	DL_TFC16, DL_TFC34	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 5120 (note 6)
17	DL_TFC17, DL_TFC35	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC18, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 5120 (note 6)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. NOTE 2: RB8: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return 1 RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU. NOTE 3: RB8: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU. NOTE 4: RB8: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU. NOTE 5: RB8: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU. NOTE 6: RB8: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU. As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test						

~~See 14.1.1 for test procedure.~~

14.2.47.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified in the actual sub test.

   ~~- for sub-test 1, 4, 7, 10, 13 and 16: RB5/TF1 (1x39).~~

   ~~- for sub-test 2, 5, 8, 11, 14 and 17: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~
3. At step 15 the UE shall return
   - for sub-test 3, 6, 9, 12 and 15: no data on RB5, RB6 and RB7.
   - for sub-test 1, 4, 7, 10, 13 and 16: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2, 5, 8, 11, 14 and 17: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.
   - for sub-test 1 to 2: no data on RB8.
   - for sub-test 3 to 5: an RLC SDU on RB8 having the same content as sent by the SS.
   - ~~-~~ for sub-test 6 to 17: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.48 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.48.1 Conformance requirement

See 14.2.4.1.

14.2.48.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.48.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 384 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.48.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (14.4 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (~~128~~ 384 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x320	0x148
	TF1, bits	1x39	1x103	1x60	1x320	1x148
	TF2, bits	1x81	N/A	N/A	2x320	N/A
	TF3, bits	N/A	N/A	N/A	4x320	N/A
	TF4, bits	N/A	N/A	N/A	8x320	N/A
	TF5, bits	N/A	N/A	N/A	16x320	N/A
	TF6, bits	N/A	N/A	N/A	32x320	N/A
	TF7, bits	N/A	N/A	N/A	48x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF0, TF1)
DL_TFC25	(TF1, TF0, TF0, TF0, TF1)
DL_TFC26	(TF2, TF1, TF1, TF0, TF1)
DL_TFC27	(TF0, TF0, TF0, TF1, TF1)
DL_TFC28	(TF1, TF0, TF0, TF1, TF1)
DL_TFC29	(TF2, TF1, TF1, TF1, TF1)
DL_TFC30	(TF0, TF0, TF0, TF2, TF1)
DL_TFC31	(TF1, TF0, TF0, TF2, TF1)
DL_TFC32	(TF2, TF1, TF1, TF2, TF1)
DL_TFC33	(TF0, TF0, TF0, TF3, TF1)
DL_TFC34	(TF1, TF0, TF0, TF3, TF1)
DL_TFC35	(TF2, TF1, TF1, TF3, TF1)
DL_TFC36	(TF0, TF0, TF0, TF4, TF1)
DL_TFC37	(TF1, TF0, TF0, TF4, TF1)
DL_TFC38	(TF2, TF1, TF1, TF4, TF1)
DL_TFC39	(TF0, TF0, TF0, TF5, TF1)
DL_TFC40	(TF1, TF0, TF0, TF5, TF1)
DL_TFC41	(TF2, TF1, TF1, TF5, TF1)
DL_TFC42	(TF0, TF0, TF0, TF6, TF1)
DL_TFC43	(TF1, TF0, TF0, TF6, TF1)
DL_TFC44	(TF2, TF1, TF1, TF6, TF1)
DL_TFC45	(TF0, TF0, TF0, TF7, TF1)
DL_TFC46	(TF1, TF0, TF0, TF7, TF1)
DL_TFC47	(TF2, TF1, TF1, TF7, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC25	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC26	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC27	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 320 (note 2)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
4	DL_TFC4, DL_TFC28	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 320 (note 2)
5	DL_TFC5, DL_TFC29	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 320 (note 2)
6	DL_TFC6, DL_TFC30	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 640 (note 3)
7	DL_TFC7, DL_TFC31	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 640 (note 3)
8	DL_TFC8, DL_TFC32	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 640 (note 3)
9	DL_TFC9, DL_TFC33	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 1280 (note 4)
10	DL_TFC10, DL_TFC34	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 1280 (note 4)
11	DL_TFC11, DL_TFC35	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 1280 (note 4)
12	DL_TFC12, DL_TFC36	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 2560 (note 5)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
13	DL_TFC13, DL_TFC37	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 2560 (note 5)
14	DL_TFC14, DL_TFC38	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 2560 (note 5)
15	DL_TFC15, DL_TFC39	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 5120 (note 6)
16	DL_TFC16, DL_TFC40	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 5120 (note 6)
17	DL_TFC17, DL_TFC41	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 5120 (note 6)
18	DL_TFC18, DL_TFC42	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 10240 (note 7)
19	DL_TFC19, DL_TFC43	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 10240 (note 7)
20	DL_TFC20, DL_TFC44	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 10240 (note 7)
21	DL_TFC21, DL_TFC45	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 15360 (note 8)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
22	DL_TFC22, DL_TFC46	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 15360 (note 8)
23	DL_TFC23, DL_TFC47	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC24, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 15360 (note 8)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB8: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return 1 RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB8: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB8: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB8: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 6: RB8: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 7: RB8: SS is using a DL RLC SDU size of 10240 bits as test data (=DL RLC PDU size for DL/TF6). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 8: RB8: SS is using a DL RLC SDU size of 15360 bits as test data (=DL RLC PDU size for DL/TF7). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test

~~See 14.1.1 for test procedure.~~

14.2.48.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified in the actual sub test.

   ~~- for sub-test 1, 4, 7, 10, 13, 16, 19 and 22: RB5/TF1 (1x39).~~

   ~~- for sub-test 2, 5, 8, 11, 14, 17, 20 and 23: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

3. At step 15 the UE shall return

   - for sub-test 3, 6, 9, 12, 15, 18 and 21: no data on RB5, RB6 and RB7.
   - for sub-test 1, 4, 7, 10, 13, 16, 19 and 22: an RLC SDU on RB5 having the same content as sent by the SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2, 5, 8, 11, 14, 17, 20 and 23: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by the SS.

- for sub-test 1 to 2: no data on RB8.
- for sub-test 3 to 5: an RLC SDU on RB8 having the same content as sent by the SS.
- for sub-test 6 to 23: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

4. ~~4.~~ At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.49.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI

14.2.49.2.1 Conformance requirement

See 14.2.4.1.

14.2.49.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.49 for the 40 ms TTI case.

14.2.49.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB8):

Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x640	0x148
	TF1, bits	1x39	1x103	1x60	4x640	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x640	0x148
	TF1, bits	1x39	1x103	1x60	4x640	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC7	UL_TFC1, DL_TFC7	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC8	UL_TFC2, DL_TFC8	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 640	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC9	UL_TFC3, DL_TFC9	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: No data RB6: No data RB7: No data RB8: 4x640
4	DL_TFC4, DL_TFC10	UL_TFC4, DL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 640	RB5: 39 RB6: No data RB7: No data RB8: 4x640
5	DL_TFC5, DL_TFC11	UL_TFC5, DL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 640	RB5: 81 RB6: 103 RB7: 60 RB8: 4x640
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TB size .						

~~See 14.1.1 for test procedure.~~

14.2.49.2.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1: RB5/TF1 (1x39).~~

   ~~- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).~~

   ~~- for sub-test 3: RB8/TF1 (4x640)~~

   ~~- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (2x640).~~

   ~~- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (4x640).~~

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

- for sub-test 3: four RLC SDUs on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 4: an RLC SDU on RB5 and four RLC SDUs on RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 5: an RLC SDU on RB5, RB6 and RB7; and four RLC SDUs on RB8 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.50 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.50.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 20 ms TTI

14.2.50.1.1 Conformance requirement

See 14.2.4.1.

14.2.50.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.50 for the 20 ms TTI case.

14.2.50.1.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5 and RB6):

	RB5 (64 kbps)	**RB6 (64 kbps)**
Uplink RLC		
TM RLC		
Segmentation indication	FALSE	FALSE
Transmission RLC discard		
CHOICE *SDU Discard Mode*		
Timer based no explicit		
Timer_discard	100ms	100ms
Downlink RLC		
TM RLC		
Segmentation indication	FALSE	FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .		

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (64 kbps)	RB6 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x640	0x148
	TF1, bits	2x640	2x640	1x148
	TF2, bits	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF0, TF1, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF0, TF1)
UL_TFC5	(TF1, TF0, TF1)
UL_TFC6	(TF0, TF1, TF1)
UL_TFC7	(TF1, TF1, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps)	RB6 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x640	0x148
	TF1, bits	2x640	2x640	1x148
	TF2, bits	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF0, TF1, TF0)
DL_TFC3	(TF1, TF1, TF0)
DL_TFC4	(TF0, TF0, TF1)
DL_TFC5	(TF1, TF0, TF1)
DL_TFC6	(TF0, TF1, TF1)
DL_TFC7	(TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC5	UL_TFC1, DL_TFC5	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 640 RB6: 640	RB5: 2x640 RB6: No data
2	DL_TFC2, DL_TFC6	UL_TFC2, DL_TFC6	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6	RB5: 640 RB6: 640	RB5: No data RB6: 2x640
3	DL_TFC3, DL_TFC7	UL_TFC3, DL_TFC7	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6, UL_TFC7	RB5: 640 RB6: 640	RB5: 2x640 RB6: 2x640
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TB size.						

~~See 14.1.1 for test procedure.~~

14.2.50.1.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1: RB5/TF1 (2x640).~~

   ~~- for sub-test 2: RB6/TF1 (2x640).~~

   ~~- for sub-test 3: RB5/TF1 (2x640); RB6/TF1 (2x640)~~
3. At step 15 the UE shall return
   - for sub-test 1: two RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: two RLC SDUs on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 3: two RLC SDUs on RB5 and RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.50.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH / 40 ms TTI

14.2.50.2.1 Conformance requirement

See 14.2.4.1.

14.2.50.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.50 for the 40 ms TTI case.

14.2.50.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5 and RB6):

	RB5 (64 kbps)	RB6 (64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .		

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (64 kbps)	RB6 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x640	0x148
	TF1, bits	4x640	4x640	1x148
	TF2, bits	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF0, TF1, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF0, TF1)
UL_TFC5	(TF1, TF0, TF1)
UL_TFC6	(TF0, TF1, TF1)
UL_TFC7	(TF1, TF1, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps)	RB6 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x640	0x148
	TF1, bits	4x640	4x640	1x148
	TF2, bits	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF0, TF1, TF0)
DL_TFC3	(TF1, TF1, TF0)
DL_TFC4	(TF0, TF0, TF1)
DL_TFC5	(TF1, TF0, TF1)
DL_TFC6	(TF0, TF1, TF1)
DL_TFC7	(TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC5	UL_TFC1, DL_TFC5	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 640 RB6: 640	RB5: 4x640 RB6: No data
2	DL_TFC2, DL_TFC6	UL_TFC2, DL_TFC6	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6	RB5: 640 RB6: 640	RB5: No data RB6: 4x640
3	DL_TFC3, DL_TFC7	UL_TFC3, DL_TFC7	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6, UL_TFC7	RB5: 640 RB6: 640	RB5: 4x640 RB6: 4x640
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TB size.						

~~See 14.1.1 for test procedure.~~

14.2.50.2.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1: RB5/TF1 (4x640).~~

   ~~- for sub-test 2: RB6/TF1 (4x640).~~

   ~~- for sub-test 3: RB5/TF1 (4x640); RB6/TF1 (4x640)~~
3. At step 15 the UE shall return
   - for sub-test 1: four RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: four RLC SDUs on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - ~~-~~ for sub-test 3: four RLC SDUs on RB5 and RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

14.2.51 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.51.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:64 DL:64 kbps / PS RAB

14.2.51.1.1 Conformance requirement

See 14.2.4.1.

14.2.51.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51 for the 20 ms TTI case.

14.2.51.1.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 64 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 952	RB5: No data RB6: 952
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: 1272	RB5: No data RB6: 1272
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 2x640 RB6: No data
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 640 RB6: 312	RB5: 2x640 RB6: 312
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 640 RB6: 632	RB5: 2x640 RB6: 632
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC8, UL_TFC10, UL_TFC18	RB5: 640 RB6: 952	RB5: 2x640 RB6: 952
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 640 RB6: 1272	RB5: 2x640 RB6: 1272
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 14.1.1 for test procedure.

14.2.51.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1 and 6: RB6/TF1 (1x336).
   - for sub-test 2 and 7: RB6/TF1 (2x336).
   - for sub-test 3 and 8: RB6/TF1 (3x336).
   - for sub-test 4 and 9: RB6/TF1 (4x336).
   - for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (2x640)
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.

- for sub-test 5: two RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
- for sub-test 6, 7, 8 and 9: two RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.

<Start of next modified section>

14.2.51.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:64 DL:64 kbps / PS RAB

14.2.51.2.1 Conformance requirement

See 14.2.4.1.

14.2.51.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51 for the 40 ms TTI case.

14.2.51.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC	
TM RLC	
Segmentation indication	FALSE
Transmission RLC discard	
CHOICE *SDU Discard Mode*	
Timer based no explicit	
Timer_discard	100ms
Downlink RLC	
TM RLC	
Segmentation indication	FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 64 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC11	UL_TFC1, DL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, DL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC3, DL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 952	RB5: No data RB6: 952
4	DL_TFC4, DL_TFC14	UL_TFC4, DL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: 1272	RB5: No data RB6: 1272
5	DL_TFC5, DL_TFC15	UL_TFC5, DL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC5, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC15	RB5: 640 RB6: 312	RB5: 4x640 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC6, DL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC6, UL_TFC10, UL_TFC16	RB5: 640 RB6: 312	RB5: 4x640 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC7, DL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 4x640 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC8, DL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 640 RB6: 952	RB5: 4x640 RB6: 952
9	DL_TFC9, DL_TFC19	UL_TFC9, DL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: 1272	RB5: 4x640 RB6: 1272
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TB size .						

~~See 14.1.1 for test procedure.~~

14.2.51.2.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (3x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (4x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (4x640)~~
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 5: two RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - ~~-~~ for sub-test 6, 7, 8 and 9: two RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.
4. ~~4.~~ At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

<Start of next modified section>

14.2.52 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.52.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:64 DL:128 kbps / PS RAB

14.2.52.1.1 Conformance requirement

See 14.2.4.1.

14.2.52.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.52 for the 20 ms TTI case.

14.2.52.1.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 64 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 128 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC11	UL_TFC1, DL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, DL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC3, DL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: ~~1912~~952	RB5: No data RB6: 1272
4	DL_TFC4, DL_TFC14	UL_TFC4, DL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: ~~2552~~1272	RB5: No data RB6: 2552
5	DL_TFC5, DL_TFC15	UL_TFC5, DL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 2x640 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC6, DL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 640 RB6: 312	RB5: 2x640 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC7, DL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 2x640 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC8, DL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 640 RB6: ~~1912~~952	RB5: 2x640 RB6: 1272
9	DL_TFC9, DL_TFC19	UL_TFC9, DL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, ~~UL_TFC3,~~ UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: ~~2552~~1272	RB5: 2x640 RB6: 2552

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TB size.

~~See 14.1.1 for test procedure.~~

14.2.52.1.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (3x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (4x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (2x640)~~
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 5: two RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - ~~-~~ for sub-test 6~~, 7, 8 and 9~~: two RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.
   - For sub-test 3: RLC SDU on RB6 having the content equal to the first 952 bits of the test data sent by the SS in downlink;
   - For sub-test 4: RLC SDU on RB6 having the content equal to the first 1272 bits of the test data sent by the SS in downlink;
   - for sub-test 8: an RLC SDU on RB6 having the content equal to the first 952 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS.
   - for sub-test 9: an RLC SDU on RB6 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.52.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:64 DL:128 kbps / PS RAB

14.2.52.2.1 Conformance requirement

See 14.2.4.1.

14.2.52.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51 for the 40 ms TTI case.

14.2.52.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 64 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 128 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC11	UL_TFC1, DL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, DL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC3, DL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: ~~1912~~ 952	RB5: No data RB6: 1272
4	DL_TFC4, DL_TFC14	UL_TFC4, DL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: ~~2552~~ 1272	RB5: No data RB6: 2552
5	DL_TFC5, DL_TFC15	UL_TFC5, DL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 4x640 RB6: No data

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
6	DL_TFC6, DL_TFC16	UL_TFC6, DL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 640 RB6: 312	RB5: 4x640 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC7, DL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 4x640 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC8, DL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 640 RB6: ~~1912~~ 952	RB5: 4x640 RB6: 1272
9	DL_TFC9, DL_TFC19	UL_TFC9, DL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: ~~2552~~ 1272	RB5: 4x640 RB6: 2552
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TB size .						

~~See 14.1.1 for test procedure.~~

14.2.52.2.4 Test requirements

See 14.1.~~1~~2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (3x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (4x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (4x640)~~
3. At step 15 the UE shall return

- for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
- for sub-test 5: four RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
- for sub-test 6~~, 7, 8 and 9~~: four RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.
- For sub-test 3: RLC SDU on RB6 having the content equal to the first 652 bits of the test data sent by the SS in downlink;
- For sub-test 4: RLC SDU on RB6 having the content equal to the first 1272 bits of the test data sent by the SS in downlink;
- for sub-test 8: an RLC SDU on RB6 having the content equal to the first 652 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS.
- for sub-test 9: an RLC SDU on RB6 having the content equal to the first 1272 bits of the test data sent by the SS in downlink; an RLC SDU on RB5 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.53 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.53.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:128 DL:128 kbps / PS RAB

14.2.53.1.1 Conformance requirement

See 14.2.4.1.

14.2.53.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.53 for the 20 ms TTI case.

14.2.53.1.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 128 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 128 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC11	UL_TFC1, DL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, DL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC3, DL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 1272	RB5: No data RB6: 1272
4	DL_TFC4, DL_TFC14	UL_TFC4, DL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: 2552	RB5: No data RB6: 2552
5	DL_TFC5, DL_TFC15	UL_TFC5, DL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 2x640 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC6, DL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 640 RB6: 312	RB5: 2x640 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC7, DL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 2x640 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC8, DL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 640 RB6: 1272	RB5: 2x640 RB6: 1272
9	DL_TFC9, DL_TFC19	UL_TFC9, DL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: 2552	RB5: 2x640 RB6: 2552
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TFS size under test.						

~~See 14.1.1 for test procedure.~~

14.2.53.1.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (4x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (8x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (2x640)~~
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 5: two RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - ~~-~~ for sub-test 6, 7, 8 and 9: two RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.53.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:128 DL:128 kbps / PS RAB

14.2.53.2.1 Conformance requirement

See 14.2.4.1.

14.2.53.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.53 for the 40 ms TTI case.

14.2.53.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC TM RLC Segmentation indication Transmission RLC discard CHOICE *SDU Discard Mode* Timer based no explicit Timer_discard	 FALSE 100ms
Downlink RLC TM RLC Segmentation indication	 FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 128 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF0, TF3, TF0)
UL_TFC4	(TF0, TF4, TF0)
UL_TFC5	(TF1, TF0, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF1, TF2, TF0)
UL_TFC8	(TF1, TF3, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF0, TF1, TF1)
UL_TFC12	(TF0, TF2, TF1)
UL_TFC13	(TF0, TF3, TF1)
UL_TFC14	(TF0, TF4, TF1)
UL_TFC15	(TF1, TF0, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF1, TF2, TF1)
UL_TFC18	(TF1, TF3, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 128 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, UL_TFC11	UL_TFC1, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 640 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, UL_TFC12	UL_TFC2, UL_TFC12	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 640 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, UL_TFC13	UL_TFC3, UL_TFC13	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 1272	RB5: No data RB6: 1272
4	DL_TFC4, UL_TFC14	UL_TFC4, UL_TFC14	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 640 RB6: 2552	RB5: No data RB6: 2552
5	DL_TFC5, UL_TFC15	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 312	RB5: 4x640 RB6: No data
6	DL_TFC6, UL_TFC16	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5 UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 640 RB6: 312	RB5: 4x640 RB6: 312
7	DL_TFC7, UL_TFC17	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 640 RB6: 632	RB5: 4x640 RB6: 632
8	DL_TFC8, UL_TFC18	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 4x640 RB6: 1272	RB5: 4x640 RB6: 1272
9	DL_TFC9, UL_TFC19	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 640 RB6: 2552	RB5: 4x640 RB6: 2552
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TFS size under test.						

~~See 14.1.1 for test procedure.~~

14.2.53.2.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1 and 6: RB6/TF1 (1x336).~~

   ~~- for sub-test 2 and 7: RB6/TF1 (2x336).~~

   ~~- for sub-test 3 and 8: RB6/TF1 (4x336).~~

   ~~- for sub-test 4 and 9: RB6/TF1 (8x336).~~

   ~~- for sub-test 5, 6, 7, 8 and 9: RB5/TF1 (4x640)~~
3. At step 15 the UE shall return
   - for sub-test 1, 2, 3, 4: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 5: four RLC SDUs on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - ~~-~~ for sub-test 6, 7, 8 and 9: four RLC SDUs on RB5 and one RLC SDU on RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.54 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.54.1 Conformance requirement

See 14.2.4.1.

14.2.54.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.54.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 64 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.54.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (I/B 64 kbps)	RB6 (Str. 14.4 kbps)	DCCH
TFS	TF0, bits	0x336	0x576	0x148
	TF1, bits	1x336	1x576	1x148
	TF2, bits	2x336	N/A	N/A
	TF3, bits	3x336	N/A	N/A
	TF4, bits	4x336	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF0, TF0)
UL_TFC3	(TF3, TF0, TF0)
UL_TFC4	(TF4, TF0, TF0)
UL_TFC5	(TF0, TF1, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF2, TF1, TF0)
UL_TFC8	(TF3, TF1, TF0)
UL_TFC9	(TF4, TF1, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF1, TF0, TF1)
UL_TFC12	(TF2, TF0, TF1)
UL_TFC13	(TF3, TF0, TF1)
UL_TFC14	(TF4, TF0, TF1)
UL_TFC15	(TF0, TF1, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF2, TF1, TF1)
UL_TFC18	(TF3, TF1, TF1)
UL_TFC19	(TF4, TF1, TF1)

Downlink TFS:

	TFI	RB5 (I/B 128 kbps)	RB6 (Str. 64 kbps)	DCCH
TFS	TF0, bits	0x336	0x320	0x148
	TF1, bits	1x336	1x320	1x148
	TF2, bits	2x336	2x320	N/A
	TF3, bits	4x336	4x320	N/A
	TF4, bits	8x336	8x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF0, TF0)
DL_TFC3	(TF3, TF0, TF0)
DL_TFC4	(TF4, TF0, TF0)
DL_TFC5	(TF0, TF1, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF2, TF1, TF0)
DL_TFC8	(TF3, TF1, TF0)
DL_TFC9	(TF4, TF1, TF0)
DL_TFC10	(TF0, TF2, TF0)
DL_TFC11	(TF1, TF2, TF0)
DL_TFC12	(TF2, TF2, TF0)
DL_TFC13	(TF3, TF2, TF0)
DL_TFC14	(TF4, TF2, TF0)

TFCI	(RB5, RB6, DCCH)
DL_TFC15	(TF0, TF3, TF0)
DL_TFC16	(TF1, TF3, TF0)
DL_TFC17	(TF2, TF3, TF0)
DL_TFC18	(TF3, TF3, TF0)
DL_TFC19	(TF4, TF3, TF0)
DL_TFC20	(TF0, TF4, TF0)
DL_TFC21	(TF1, TF4, TF0)
DL_TFC22	(TF2, TF4, TF0)
DL_TFC23	(TF3, TF4, TF0)
DL_TFC24	(TF4, TF4, TF0)
DL_TFC25	(TF0, TF0, TF1)
DL_TFC26	(TF1, TF0, TF1)
DL_TFC27	(TF2, TF0, TF1)
DL_TFC28	(TF3, TF0, TF1)
DL_TFC29	(TF4, TF0, TF1)
DL_TFC30	(TF0, TF1, TF1)
DL_TFC31	(TF1, TF1, TF1)
DL_TFC32	(TF2, TF1, TF1)
DL_TFC33	(TF3, TF1, TF1)
DL_TFC34	(TF4, TF1, TF1)
DL_TFC35	(TF0, TF2, TF1)
DL_TFC36	(TF1, TF2, TF1)
DL_TFC37	(TF2, TF2, TF1)
DL_TFC38	(TF3, TF2, TF1)
DL_TFC39	(TF4, TF2, TF1)
DL_TFC40	(TF0, TF3, TF1)
DL_TFC41	(TF1, TF3, TF1)
DL_TFC42	(TF2, TF3, TF1)
DL_TFC43	(TF3, TF3, TF1)
DL_TFC44	(TF4, TF3, TF1)
DL_TFC45	(TF0, TF4, TF1)
DL_TFC46	(TF1, TF4, TF1)
DL_TFC47	(TF2, TF4, TF1)
DL_TFC48	(TF3, TF4, TF1)
DL_TFC49	(TF4, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC26	UL_TFC1, UL_TFC11	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 312 RB6: 576	RB5: 312 RB6: No data
2	DL_TFC2, DL_TFC27	UL_TFC2, UL_TFC12	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 632 RB6: 576	RB5: 632 RB6: No data
3	DL_TFC3, DL_TFC28	UL_TFC3, UL_TFC13	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: No data
4	DL_TFC4, DL_TFC29	UL_TFC4, UL_TFC14	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: No data
5	DL_TFC5, DL_TFC30	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 320 (note 2)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
6	DL_TFC6, DL_TFC31	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 320 (note 2)
7	DL_TFC7, DL_TFC32	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5 UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 320 (note 2)
8	DL_TFC8, DL_TFC33	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5 UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 320 (note 2)
9	DL_TFC9, DL_TFC34	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 320 (note 2)
10	DL_TFC10, DL_TFC35	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 640 (note 3)
11	DL_TFC11, DL_TFC36	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 640 (note 3)
12	DL_TFC12, DL_TFC37	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5 UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 640 (note 3)
13	DL_TFC13, DL_TFC38	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 640 (note 3)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
14	DL_TFC14, DL_TFC39	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 640 (note 3)
15	DL_TFC15, DL_TFC40	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 1280 (note 4)
16	DL_TFC16, DL_TFC41	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 1280 (note 4)
17	DL_TFC17, DL_TFC42	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 1280 (note 4)
18	DL_TFC18, DL_TFC43	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 1280 (note 4)
19	DL_TFC19, DL_TFC44	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 1280 (note 4)
20	DL_TFC20, DL_TFC45	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 2560 (note 5)
21	DL_TFC21, DL_TFC46	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 2560 (note 5)
22	DL_TFC22, DL_TFC47	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 2560 (note 5)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
23	DL_TFC23, DL_TFC48	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5 UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 2560 (note 5)
24	DL_TFC24, DL_TFC49	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC25, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 2560 (note 5)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB6: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return one RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB6: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB6: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB6: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
RB5: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB5 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test.

~~See 14.1.1 for test procedure.~~

14.2.54.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1, 6, 11, 16 and 21: RB5/TF1 (1x336).~~

   ~~- for sub-test 2, 7, 12, 17 and 22: RB5/TF1 (2x336).~~

   ~~- for sub-test 3, 8, 13, 18 and 23: RB5/TF1 (3x336).~~

   ~~- for sub-test 4, 9, 14, 19 and 24: RB5/TF1 (4x336).~~

3. At step 15 the UE shall return

   - for sub-test 1, 2, ~~3, 4,~~ 6, 7, ~~8, 9,~~ 11, 12, ~~13, 14,~~ 16, 17, ~~18, 19,~~ 21, 22~~, 23 and 24~~: an RLC SDU on RB5 having the same content as sent by the SS.
   - for sub-test 5, 10, 15 and 20: no data shall be received on RB5.
   - for sub-test 1 to 4: no data shall be received on RB6.

- for sub-test 5 to 9: an RLC SDU on RB6 having the same content as sent by the SS.

- for sub-test 10, 11, 12, 15, 16, 17, 20, 21 and 22 ~~to 24~~: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.

- For sub-test 3,8,13,18,23: an RLC SDU on RB5 having the content equal to the first 952 bits of the test data sent by the SS in downlink;

- For sub-test 4,9,14,19,24: an RLC SDU on RB5 having the content equal to the first 1272 bits of the test data sent by the SS in downlink;

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.55 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.55.1 Conformance requirement

See 14.2.4.1.

14.2.55.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.55.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 64 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.15.1 (Streaming/unknown/UL:14.4 kbps) is used in uplink.

14.2.55.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (I/B 64 kbps)	RB6 (Str. 14.4 kbps)	DCCH
TFS	TF0, bits	0x336	0x576	0x148
	TF1, bits	1x336	1x576	1x148
	TF2, bits	2x336	N/A	N/A
	TF3, bits	3x336	N/A	N/A
	TF4, bits	4x336	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF0, TF0)
UL_TFC3	(TF3, TF0, TF0)
UL_TFC4	(TF4, TF0, TF0)
UL_TFC5	(TF0, TF1, TF0)
UL_TFC6	(TF1, TF1, TF0)
UL_TFC7	(TF2, TF1, TF0)
UL_TFC8	(TF3, TF1, TF0)
UL_TFC9	(TF4, TF1, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF1, TF0, TF1)
UL_TFC12	(TF2, TF0, TF1)
UL_TFC13	(TF3, TF0, TF1)
UL_TFC14	(TF4, TF0, TF1)
UL_TFC15	(TF0, TF1, TF1)
UL_TFC16	(TF1, TF1, TF1)
UL_TFC17	(TF2, TF1, TF1)
UL_TFC18	(TF3, TF1, TF1)
UL_TFC19	(TF4, TF1, TF1)

Downlink TFS:

	TFI	RB5 (I/B 128 kbps)	RB6 (Str. 128 kbps)	DCCH
TFS	TF0, bits	0x336	0x320	0x148
	TF1, bits	1x336	1x320	1x148
	TF2, bits	2x336	2x320	N/A
	TF3, bits	4x336	4x320	N/A
	TF4, bits	8x336	8x320	N/A
	TF5, bits	N/A	16x320	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF0, TF0)
DL_TFC3	(TF3, TF0, TF0)
DL_TFC4	(TF4, TF0, TF0)
DL_TFC5	(TF0, TF1, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF2, TF1, TF0)
DL_TFC8	(TF3, TF1, TF0)
DL_TFC9	(TF4, TF1, TF0)
DL_TFC10	(TF0, TF2, TF0)
DL_TFC11	(TF1, TF2, TF0)
DL_TFC12	(TF2, TF2, TF0)
DL_TFC13	(TF3, TF2, TF0)
DL_TFC14	(TF4, TF2, TF0)
DL_TFC15	(TF0, TF3, TF0)
DL_TFC16	(TF1, TF3, TF0)
DL_TFC17	(TF2, TF3, TF0)
DL_TFC18	(TF3, TF3, TF0)
DL_TFC19	(TF4, TF3, TF0)
DL_TFC20	(TF0, TF4, TF0)
DL_TFC21	(TF1, TF4, TF0)
DL_TFC22	(TF2, TF4, TF0)
DL_TFC23	(TF3, TF4, TF0)
DL_TFC24	(TF4, TF4, TF0)
DL_TFC25	(TF0, TF5, TF0)
DL_TFC26	(TF1, TF5, TF0)
DL_TFC27	(TF2, TF5, TF0)
DL_TFC28	(TF3, TF5, TF0)
DL_TFC29	(TF4, TF5, TF0)
DL_TFC30	(TF0, TF0, TF1)
DL_TFC31	(TF1, TF0, TF1)
DL_TFC32	(TF2, TF0, TF1)
DL_TFC33	(TF3, TF0, TF1)
DL_TFC34	(TF4, TF0, TF1)
DL_TFC35	(TF0, TF1, TF1)
DL_TFC36	(TF1, TF1, TF1)
DL_TFC37	(TF2, TF1, TF1)
DL_TFC38	(TF3, TF1, TF1)
DL_TFC39	(TF4, TF1, TF1)
DL_TFC40	(TF0, TF2, TF1)
DL_TFC41	(TF1, TF2, TF1)
DL_TFC42	(TF2, TF2, TF1)
DL_TFC43	(TF3, TF2, TF1)
DL_TFC44	(TF4, TF2, TF1)
DL_TFC45	(TF0, TF3, TF1)
DL_TFC46	(TF1, TF3, TF1)
DL_TFC47	(TF2, TF3, TF1)
DL_TFC48	(TF3, TF3, TF1)
DL_TFC49	(TF4, TF3, TF1)
DL_TFC50	(TF0, TF4, TF1)
DL_TFC51	(TF1, TF4, TF1)
DL_TFC52	(TF2, TF4, TF1)
DL_TFC53	(TF3, TF4, TF1)
DL_TFC54	(TF4, TF4, TF1)
DL_TFC55	(TF0, TF5, TF1)
DL_TFC56	(TF1, TF5, TF1)
DL_TFC57	(TF2, TF5, TF1)
DL_TFC58	(TF3, TF5, TF1)
DL_TFC59	(TF4, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
1	DL_TFC1, DL_TFC31	UL_TFC1, UL_TFC11	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC10, UL_TFC11	RB5: 312 RB6: 576	RB5: 312 RB6: No data
2	DL_TFC2, DL_TFC32	UL_TFC2, UL_TFC12	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC10, UL_TFC12	RB5: 632 RB6: 576	RB5: 632 RB6: No data
3	DL_TFC3, DL_TFC33	UL_TFC3, UL_TFC13	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 9521~~1272~~ RB6: 576	RB5: 1272 RB6: No data
4	DL_TFC4, DL_TFC34	UL_TFC4, UL_TFC14	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC10, UL_TFC14	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: No data
5	DL_TFC5, DL_TFC35	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 320 (note 2)
6	DL_TFC6, DL_TFC36	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 320 (note 2)
7	DL_TFC7, DL_TFC37	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 320 (note 2)
8	DL_TFC8, DL_TFC38	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 9521~~1272~~ RB6: 576	RB5: 1272 RB6: 320 (note 2)
9	DL_TFC9, DL_TFC39	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 320 (note 2)
10	DL_TFC10, DL_TFC40	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 640 (note 3)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
11	DL_TFC11, DL_TFC41	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 640 (note 3)
12	DL_TFC12, DL_TFC42	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 640 (note 3)
13	DL_TFC13, DL_TFC43	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 640 (note 3)
14	DL_TFC14, DL_TFC44	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 640 (note 3)
15	DL_TFC15, DL_TFC45	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 1280 (note 4)
16	DL_TFC16, DL_TFC46	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 1280 (note 4)
17	DL_TFC17, DL_TFC47	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 1280 (note 4)
18	DL_TFC18, DL_TFC48	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 1280 (note 4)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
19	DL_TFC19, DL_TFC49	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 1280 (note 4)
20	DL_TFC20, DL_TFC50	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5 UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 2560 (note 5)
21	DL_TFC21, DL_TFC51	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 2560 (note 5)
22	DL_TFC22, DL_TFC52	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 2560 (note 5)
23	DL_TFC23, DL_TFC53	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 952~~1272~~ RB6: 576	RB5: 1272 RB6: 2560 (note 5)
24	DL_TFC24, DL_TFC54	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15, UL_TFC19	RB5: 1272~~2552~~ RB6: 576	RB5: 2552 RB6: 2560 (note 5)
25	DL_TFC25~~0~~ , DL_TFC55	UL_TFC5, UL_TFC15	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 312 RB6: 576	RB5: No data RB6: 5120 (note 6)
26	DL_TFC26~~1~~ , DL_TFC56	UL_TFC6, UL_TFC16	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6 UL_TFC10, UL_TFC11, UL_TFC15, UL_TFC16	RB5: 312 RB6: 576	RB5: 312 RB6: 5120 (note 6)
27	DL_TFC27~~2~~ , DL_TFC57	UL_TFC7, UL_TFC17	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7, UL_TFC10, UL_TFC12, UL_TFC15, UL_TFC17	RB5: 632 RB6: 576	RB5: 632 RB6: 5120 (note 6)

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note 1)	Test data size (bits) (note 1)
28	DL_TFC283 , DL_TFC58	UL_TFC8, UL_TFC18	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8, UL_TFC10, UL_TFC13, UL_TFC15, UL_TFC18	RB5: 9521272 RB6: 576	RB5: 1272 RB6: 5120 (note 6)
29	DL_TFC294 , DL_TFC59	UL_TFC9, UL_TFC19	DL_TFC0, DL_TFC30, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9, UL_TFC10, UL_TFC14, UL_TFC15 UL_TFC19	RB5: 12722552 RB6: 576	RB5: 2552 RB6: 5120 (note 6)

NOTE 1: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
NOTE 2: RB6: SS is using a DL RLC SDU with 320 bits as test data (=DL RLC PDU size for DL/TF1). UE will return one RLC PDU. SS creates an UL RLC SDU from the first 320 bits of the received RLC PDU.
NOTE 3: RB6: SS is using a DL RLC SDU size of 640 bits as test data (=DL RLC PDU size for DL/TF2). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 4: RB6: SS is using a DL RLC SDU size of 1280 bits as test data (=DL RLC PDU size for DL/TF3). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 5: RB6: SS is using a DL RLC SDU size of 2560 bits as test data (=DL RLC PDU size for DL/TF4). UE will return one RLC PDU. SS creates an UL RLC SDU from the received RLC PDU.
NOTE 6: RB6: SS is using a DL RLC SDU size of 5120 bits as test data (=DL RLC PDU size for DL/TF5). UE will return one RLC PDU. SS creates an UL RLC SDU. from the received RLC PDU.
RB5: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB5 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test.

~~See 14.1.1 for test procedure.~~

14.2.55.4 Test requirements

See 14.1.~~1~~ 2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual subtest.

   ~~- for sub-test 1, 6, 11, 16, 21 and 26: RB5/TF1 (1x336).~~

   ~~- for sub-test 2, 7, 12, 17, 22 and 27: RB5/TF1 (2x336).~~

   ~~- for sub-test 3, 8, 13, 18, 23 and 28: RB5/TF1 (3x336).~~

   ~~- for sub-test 4, 9, 14, 19, 24 and 29: RB5/TF1 (4x336).~~
3. At step 15 the UE shall return

   - ~~-~~for sub-test 1, 2, ~~3, 4,~~ 6, 7, ~~8, 9,~~ 11, 12, ~~13, 14,~~ 16, 17, ~~18, 19,~~ 21, 22, ~~23, 24,~~ 26, 27~~, 28 and 29~~: an RLC SDU on RB5 having the same content as sent by the SS.

   - for sub-tests 4 RLC SDU on RB5 having the same content as the first 1272 bits of the RLC SDU sent by the SS. And no data shall return on RB6.

   - for sub-test 5, 10, 15, 20 and 25: no data shall be received on RB5.

- for sub-test 1, 2, 3 and 4: no data shall be received on RB6.
- for sub-test 5 to 9: an RLC SDU on RB6 having the same content as sent by the SS.
- for sub-test 10 to 29: an RLC SDU on RB5 having the same content as the first 576 bits of the RLC SDU sent by the SS.
- for sub-tests 3, 8, 13, 18, 23, 28: an RLC SDU on RB5 having the same content as the first 952 bits of the RLC SDU sent by the SS.
- for sub-tests 4, 9, 14, 19, 24, 29: an RLC SDU on RB5 having the same content as the first 1272 bits of the RLC SDU sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

3GPP TSG–T1 Meeting #16
3GPP TSG–T1/SIG Meeting #24
Yokohama, Japan, 29th July - 2nd Aug 2002

Tdoc T1-020551
Tdoc T1S-020388

CR-Form-v7

CHANGE REQUEST

⌘ **34.123-1** **CR** **290** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction for test case 14.2.38.2
Source:	⌘	Motorola
Work item code:	⌘	TEI
Date:	⌘	22/07/2002
Category:	⌘	**F**
Release:	⌘	*Rel-5*

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Separate test procedure is required for test case 14.2.38.2 as list of TFCIs are different from 14.2.38.1
Summary of change:	⌘	Added test procedure with correct TFCS values to 14.2.38.2
Consequences if not approved:	⌘	Test case as specified is incorrect
Clauses affected:	⌘	14.2.38

Other specs affected:	⌘	Y	N		⌘
		☐	☐	Other core specifications	
		☐	☐	Test specifications	
		☐	☐	O&M Specifications	

Other comments:	⌘	Affects R99, REL-4, REL-5

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downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ 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>

14.2.38.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 10 ms TTI)

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 10 ms TTI case.~~

~~See 14.2.38.1 for test procedure and test requirements. Only sub-tests 1 to 5 are applicable for the 10 ms TTI case.~~

14.2.38.2.1 Conformance requirement

See 14.2.4.1.

14.2.38.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 10 ms TTI case.

14.2.38.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (32 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, RB7, RB8, DCCH)**
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (8 kbps)**	**DCCH**
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1 DL_TFC7	UL_TFC1 UL_TFC7	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 DL_TFC8	UL_TFC2 UL_TFC8	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3 DL_TFC9	UL_TFC3 UL_TFC9	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4 DL_TFC10	UL_TFC4 UL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5 DL_TFC11	UL_TFC5 UL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: 312

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the uplink TTI for RB8 is 10 ms while the downlink TTI is 40 ms then, to achieve continous data transmission in uplink the size of the uplink RLC SDU has been set such that it will be transmitted over four tsubsequent TTIs, i.e. UL RLC SDU SIZE has been set to four times the uplink TFS size minus 8 (the size of a 7 bit length indicator and expansion bit).

14.2.38.2.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub test.

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - for sub-test 3 : an RLC SDU on RB8 having the first 312 bits equal to the content sent by the SS in the downlink ; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4 : an RLC SDU on RB5 having the same content as sent by SS and on RB8 having the first 312 bits equal to the content sent by the SS in the downlink; and no data shall be received on RB6 and RB7.

   - for sub-test 5 : an RLC SDU on RB5, RB6, RB7 having the same content as sent by SS and on RB8 having the first 312 bits equal to the content sent by the SS in the downlink.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<End of modified section>

3GPP TSG-T1 Meeting #16 ***T1-020552***
3GPP TSG-T1/SIG Meeting #24 ***T1S-020459***
Yokohama, Japan, July 29th - August 2nd 2002

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1** **CR** **291** ⌘ Rev **-** ⌘ Current version: **5.0.1** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (40ms TTI).
Source:	⌘	Motorola & Vodafone
Work item code:	⌘	TEI
Date:	⌘	25-07-2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The reference RAB 23c: Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH (40ms TTI) was introduced into TS 34.108 at the T1 Sig meeting #21. The associated test is defined.
Summary of change:	⌘	Introduction of the testing for the establishment and the data transfer of the configuration mentioned above.
Consequences if not approved:	⌘	No test exists for RAB 23c

Clauses affected:	⌘	14.2.23c.
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	This CR affects R'99 and later releases This CR is a re-submission of Vodafone CR T1S-020122 and Motorola CR T1S-020282 approved (but missed to be included in the spec) at earlier T1_SIG meetings.

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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 ftp://ftp.3gpp.org/specs/ 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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14.2.23c Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23c.

14.2.23c.1 Conformance requirement

See 14.2.4.1.

14.2.23c.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23c.

14.2.23c.3 Method of test

Uplink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, UL_TFC0 DL_TFC5,UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 312	RB5: 312
2	DL_TFC2	UL_TFC2	DL_TFC0, UL_TFC0 DL_TFC5 ,UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 632	RB5: 632
3	DL_TFC3	UL_TFC3	DL_TFC0, UL_TFC0 DL_TFC5 ,UL_TFC5	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 952	RB5: 952
4	DL_TFC4	UL_TFC4	DL_TFC0, UL_TFC0 DL_TFC5 ,UL_TFC5	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272	RB5: 1272

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. For RB5: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

See 14.1.1 for test procedure.

14.2.23c.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send a RADIO BEARER SETUP COMPLETE message.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4: RB5/TF4 (4x336).

3. At step 15 the UE shall return

   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

3GPP TSG-T1 Meeting #16
Yokohama, Japan 1st – 2nd August, 2002

T1-020553

T1S-020546

CR-Form-v4

CHANGE REQUEST

⌘ **34.123-1** **CR** **292** ⌘ ev **-** ⌘ Current version: **5.0.1** ⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	New Tests for Radio Bearers 14.2.38d and 14.2.57.
Source:	⌘	mmO2
Work item code:	⌘	TEI
Date:	⌘	19/07/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Addition of test cases for Multiple PDP contexts RAB combinations.
Summary of change:	⌘	Test cases included in section 14.2 for the following RAB combinations: - 38d Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. - 57 Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
Consequences if not approved:	⌘	Test would not exist for these RAB combinations.

Clauses affected:	⌘	New 14.2.38d, 14.2.57
Other specs Affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Applicable to R99 and later releases. This is an update from T1S-020464 with 2 minor editorial corrections to references.

<START OF MODIFIED SECTION>

~~14.2.38d Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38d.~~

14.2.38d.1 Conformance requirement

See 14.2.4.1.

14.2.38d.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38d.

14.2.38d.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 + RB9 (64 kbps, 20 ms TTI)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x340	0x148
	TF1, bits	1x39	1x103	1x60	1x340	1x148
	TF2, bits	1x81	N/A	N/A	2x340	N/A
	TF3, bits	N/A	N/A	N/A	3x340	N/A
	TF4, bits	N/A	N/A	N/A	4x340	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8+RB9, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 + RB9 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x340	0x148
	TF1, bits	1x39	1x103	1x60	1x340	1x148
	TF2, bits	1x81	N/A	N/A	2x340	N/A
	TF3, bits	N/A	N/A	N/A	3x340	N/A
	TF4, bits	N/A	N/A	N/A	4x340	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8+RB9, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1, DL_TFC16	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312 RB9: 312	RB5: 39 RB6: No data RB7: No data RB8: No data RB9: No data
2	DL_TFC2, DL_TFC17	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312 RB9: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data RB9: No data
3	DL_TFC3, DL_TFC18	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 312 RB9: 312	RB5: No data RB6: No data RB7: No data RB8: 312 RB9: No data
4	DL_TFC4, DL_TFC19	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC15, DUL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312 RB9: 312	RB5: 39 RB6: No data RB7: No data RB8: 312 RB9: No data
5	DL_TFC5, DL_TFC20	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312 RB9: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312 RB9: No data
6	DL_TFC6, DL_TFC21	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 632 RB9: 632	RB5: No data RB6: No data RB7: No data RB8: 632 RB9: No data
7	DL_TFC7, DL_TFC22	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632 RB9: 632	RB5: 39 RB6: No data RB7: No data RB8: 632 RB9: No data
8	DL_TFC8, DL_TFC23	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632 RB9: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632 RB9: No data
9	DL_TFC9, DL_TFC24	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 952 RB9: 952	RB5: No data RB6: No data RB7: No data RB8: 952 RB9: No data

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
10	DL_TFC10, DL_TFC25	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 952 RB9: 952	RB5: 39 RB6: No data RB7: No data RB8: 952 RB9: No data
11	DL_TFC11, DL_TFC26	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952 RB9: 952	RB5: 81 RB6: 103 RB7: 60 RB8: 952 RB9: No data
12	DL_TFC12, DL_TFC27	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1272 RB9: 1272	RB5: No data RB6: No data RB7: No data RB8: 1272 RB9: No data
13	DL_TFC13, DL_TFC28	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272 RB9: 1272	RB5: 39 RB6: No data RB7: No data RB8: 1272 RB9: No data
14	DL_TFC14, DL_TFC29	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272 RB9: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: 1272 RB9: No data
15	DL_TFC14, DL_TFC29	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272 RB9: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: No data RB9: 1272
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB5 and RB6: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

14.2.38d.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7, RB8 or RB9.
- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8 or RB9.
- for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6, RB7 or RB9.
- for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6, RB7 or RB9.
- for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS. No data shall be received on RB9.
- for sub-test 15: an RLC SDU on RB5, RB6, RB7 and RB9 having the same content as sent by SS; and no data shall be received on RB8.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<END OF MODIFIED SECTION>

<START OF NEXT MODIFIED SECTION>

~~14.2.57 Interactive or background / UL:64 DL:64 kbps / PS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.57.~~

14.2.57.1 Conformance requirement

See 14.2.4.1.

14.2.57.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.57.

14.2.57.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 + RB6 (64 kbps RAB, 20 ms TTI)	DCCH
TFS	TF0, bits	0x340	0x148
	TF1, bits	1x340	1x148
	TF2, bits	2x340	N/A
	TF3, bits	3x340	N/A
	TF4, bits	4x340	N/A

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 + RB6 (64 kbps RAB, 20 ms TTI)	DCCH
TFS	TF0, bits	0x340	0x148
	TF1, bits	1x340	1x148
	TF2, bits	2x340	N/A
	TF3, bits	3x340	N/A
	TF4, bits	4x340	N/A

Downlink TFCS:

TFCI	(RB5 + RB6, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1 DL_TFC6	UL_TFC1 DL_TFC6	DL_TFC0, DL_TFC5, UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 312 RB6: 312	RB5: 312 RB6: No data
2	DL_TFC2 DL_TFC7	UL_TFC2 DL_TFC7	DL_TFC0, DL_TFC5, UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 632 RB6: 632	RB5: 632 RB6: No data
3	DL_TFC3 DL_TFC8	UL_TFC3 DL_TFC8	DL_TFC0, DL_TFC5, UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 952 RB6: 952	RB5: 952 RB6: No data
4	DL_TFC4 DL_TFC9	UL_TFC4 DL_TFC9	DL_TFC0, DL_TFC5, UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272 RB6: 1272	RB5: 1272 RB6: No data
5	DL_TFC4 DL_TFC9	UL_TFC4 DL_TFC9	DL_TFC0, DL_TFC5, UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272 RB5: 1272	RB5: No data RB6: 1272
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB5 and RB6: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

14.2.57.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15a and step 15b the UE shall return

   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS in RB5.

   - for sub-test 5: an RLC SDU on RB6 having the same content as the DL RLC SDU sent by the SS in RB6.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

<END OF MODIFIED SECTION>

3GPP TSG-T1Meeting #16
Yokohama, Japan, 1 – 2 Aug 02

Tdoc ⌘T1-020554

Tdoc T1S-020537

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123 - 1** **CR** **293** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	New tests for radio bearers 23a, 38a, 38b, 38e, 51a & 51b		
Source:	⌘	Hutchison 3G UK		
Work item code:	⌘	TEI	***date:*** ⌘	31/07/02
Category:	⌘	**F**	***Release:*** ⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	The following radio bearers were introduced into TS 34.108 at T1 Sig#21 and the associated tests are required: 23a: Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 38a: Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 38b: Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 38e: Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. 51a: Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH 51b: Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
Summary of change:	⌘	Introduction of the testing of the configurations detailed above.
Consequences if not approved:	⌘	Lack of test coverage which may lead to interworking issues

Clauses affected:	⌘	New 14.2.23a, 14.2.38a, 14.2.38b, 14.2.38e, 14.2.51a & 14.2.51b			
		Y	**N**		
Other specs affected:	⌘			Other core specifications	⌘
				Test specifications	
				O&M Specifications	
Other comments:	⌘	Affects R99, Rel-4 and Rel-5.			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

~~14.2.23a Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23a.~~

14.2.23a.1 Conformance requirement

See 14.2.4.1.

14.2.23a.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23a.

14.2.23a.3 Method of test

See 14.1.1 for test procedure.

Uplink TFS:

	TFI	**RB5 (8 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Uplink TFCS:

TFCI	**(8 kbps RAB, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

		RB5 (8 kbps)	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Downlink TFCS:

TFCI	**(8 kbps RAB, DCCH)**
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC2,	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 312	RB5: 312

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).

14.2.23a.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

End of modified section

~~14.2.38a Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38a.~~

14.2.38a.1 Conformance requirement

See 14.2.4.1.

14.2.38a.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38a.

14.2.38a.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (0 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	N/A	1x148

	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF0, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (0 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	N/A	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF0, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1 DL_TFC4	UL_TFC1 UL_TFC4	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3,	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 RB6: 103 RB7: 60 RB8: 0	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 DL_TFC5	UL_TFC2 UL_TFC5	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3,	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 81 RB6: 103 RB7: 60 RB8: 0	RB5: 81 RB6: 103 RB7: 60 RB8: No data
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

14.2.38a.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

~~14.2.38b Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38b.~~

14.2.38b.1 Conformance requirement

See 14.2.4.1.

14.2.38b.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38b.

14.2.38b.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (8 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	**(RB5, RB6, RB7, RB8, DCCH)**
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (8 kbps)**	**DCCH**
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1 DL_TFC7	UL_TFC1 UL_TFC7	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2 DL_TFC8	UL_TFC2 UL_TFC8	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3 DL_TFC9	UL_TFC3 UL_TFC9	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4 DL_TFC10	UL_TFC4 UL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5 DL_TFC11	UL_TFC5 UL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).

14.2.38b.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15a and step 15b the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - for sub-test 3: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

   - for sub-test 5: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

End of modified section

~~14.2.38e Conversational / speech / UL:(12.2 7.95 5.9 4.75) DL:(12.2 7.95 5.9 4.75) kbps / CS RAB + Interactive or background / UL:0 DL:0 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38e.~~

14.2.38e.1 Conformance requirement

See 14.2.4.1.

14.2.38e.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38e.

14.2.38e.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (0 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	N/A	1x148
	TF2, bits	1x42	1x63	N/A	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0, TF0, TF0)
UL_TFC3	(TF3, TF2, TF0, TF0, TF0)
UL_TFC4	(TF4, TF3, TF0, TF0, TF0)
UL_TFC5	(TF5, TF1, TF1, TF0, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF0, TF0, TF1)
UL_TFC9	(TF3, TF2, TF0, TF0, TF1)
UL_TFC10	(TF4, TF3, TF0, TF0, TF1)
UL_TFC11	(TF5, TF1, TF1, TF0, TF1)

Downlink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (0 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x53	1x60	N/A	1x148
	TF2, bits	1x42	1x63	N/A	N/A	N/A
	TF3, bits	1x55	1x84	N/A	N/A	N/A
	TF4, bits	1x75	1x103	N/A	N/A	N/A
	TF5, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0, TF0, TF0)
DL_TFC3	(TF3, TF2, TF0, TF0, TF0)
DL_TFC4	(TF4, TF3, TF0, TF0, TF0)
DL_TFC5	(TF5, TF1, TF1, TF0, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF0, TF0, TF1)
DL_TFC9	(TF3, TF2, TF0, TF0, TF1)
DL_TFC10	(TF4, TF3, TF0, TF0, TF1)
DL_TFC11	(TF5, TF1, TF1, TF0, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC7	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 39 bits RB6: 103 bits RB7: 60 bits RB8: 0 bits	RB5: 39 bits RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC8	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 42 bits RB6: 53 bits RB7: 60 bits RB8: 0 bits	RB5: 42 bits RB6: 53 bits RB7: No data RB8: No data
3	DL_TFC3, DL_TFC9	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 55 bits RB6: 63 bits RB7: 60 bits RB8: 0 bits	RB5: 55 bits RB6: 63 bits RB7: No data RB8: No data
4	DL_TFC4, DL_TFC10	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 75 bits RB6: 84 bits RB7: 60 bits RB8: 0 bits	RB5: 75 bits RB6: 84 bits RB7: No data RB8: No data
5	DL_TFC5, DL_TFC11	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC6, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: 0 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits RB8: No data
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

14.2.38e.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2,3 and 4: RLC SDUs on RB5 and RB6 having the same content as sent by the SS; and no data shall be received on RB7 and RB8.
   - for sub-test 5: RLC SDUs on RB5, RB6 and RB7 having the same content as sent by the SS; and no data shall be received on RB8.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

End of modified section

~~14.2.51a Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51a.~~

14.2.51a.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:8 DL:8 kbps / PS RAB

14.2.51a.1.1 Conformance requirement

See 14.2.4.1.

14.2.51a.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51a for the 20 ms TTI case.

14.2.51a.1.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 8 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148

Uplink TFCS:

TFCI	**(RB5, RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF1, TF0, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF0, TF1)
UL_TFC5	(TF0, TF1, TF1)
UL_TFC6	(TF1, TF0, TF1)
UL_TFC7	(TF1, TF1, TF1)

Downlink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 8kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148

Downlink TFCS:

TFCI	**(RB5, RB6, DCCH)**
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF1, TF0, TF0)
DL_TFC3	(TF1, TF1, TF0)
DL_TFC4	(TF0, TF0, TF1)
DL_TFC5	(TF0, TF1, TF1)
DL_TFC6	(TF1, TF0, TF1)
DL_TFC7	(TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1 DL_TFC5	UL_TFC1 UL_TFC5	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 1280 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2 DL_TFC6	UL_TFC2 UL_TFC6	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6	RB5: 1280 RB6: 312	RB5: 1280 RB6: No data
3	DL_TFC3 DL_TFC7	UL_TFC3 UL_TFC7	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6, UL_TFC7	RB5: 1280 RB6: 312	RB5: 1280 RB6: 312
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

14.2.51a.1.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 2: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 3: an RLC SDU on RB5 and RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.51a.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 40 ms TTI + Interactive or background / UL:8 DL:8 kbps / PS RAB

14.2.51a.2.1 Conformance requirement

See 14.2.4.1.

14.2.51a.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51a for the 40 ms TTI case.

14.2.51a.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 8 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF1, TF0, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF0, TF1)
UL_TFC5	(TF0, TF1, TF1)
UL_TFC6	(TF1, TF0, TF1)
UL_TFC7	(TF1, TF1, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF1, TF0, TF0)
DL_TFC3	(TF1, TF1, TF0)
DL_TFC4	(TF0, TF0, TF1)
DL_TFC5	(TF0, TF1, TF1)
DL_TFC6	(TF1, TF0, TF1)
DL_TFC7	(TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1 DL_TFC5,	UL_TFC1 UL_TFC5	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 2560 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2 DL_TFC5,	UL_TFC2 UL_TFC6	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6	RB5: 2560 RB6: 312	RB5: 2560 RB6: No data
3	DL_TFC3 DL_TFC5,	UL_TFC3 UL_TFC7	DL_TFC0, DL_TFC4, UL_TFC0, UL_TFC4,	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6, UL_TFC7	RB5: 2560 RB6: 312	RB5: 2560 RB6: 312
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB8 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

14.2.51a.2.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 2: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 3: an RLC SDU on RB5 and RB6 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

~~14.2.51b Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or Background / UL:16 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.~~

~~Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51b.~~

14.2.51b.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:16 DL:64 kbps / PS RAB

14.2.51b.1.1 Conformance requirement

See 14.2.4.1.

14.2.51b.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51b for the 20 ms TTI case.

14.2.51b.1.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 16 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF1, TF0, TF0)
UL_TFC4	(TF1, TF1, TF0)
UL_TFC5	(TF1, TF2, TF0)
UL_TFC6	(TF0, TF0, TF1)
UL_TFC7	(TF0, TF1, TF1)
UL_TFC8	(TF0, TF2, TF1)
UL_TFC9	(TF1, TF0, TF1)
UL_TFC10	(TF1, TF1, TF1)
UL_TFC11	(TF1, TF2, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	2x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1, DL_TFC11	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 1280 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2 ,UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 1280 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 1280 RB6: 632	RB5: No data RB6: 952
4	DL_TFC4, DL_TFC14	UL_TFC2 ,UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 1280 RB6: 632	RB5: No data RB6: 1272
5	DL_TFC5, DL_TFC15	UL_TFC3 ,UL_TFC9	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1280 RB6: 312	RB5: 1280 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 1280 RB6: 312	RB5: 1280 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 1280 RB6: 632	RB5: 1280 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 1280 RB6: 632	RB5: 1280 RB6: 952
9	DL_TFC9, DL_TFC19	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 1280 RB6: 632	RB5: 1280 RB6: 1272

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TB size .

14.2.51b.1.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1, 2: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.
   - for sub-test 3, 4: an RLC SDU on RB5 having the same content as sent by SS and on RB6 having the content equal to the first 632 bits of the test data sent by the SS in downlink
   - for sub-test 5: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 6 , 7 : an RLC SDU on RB5 and RB6 having the same content as sent by SS
   - for sub-test 8 , 9 : on RB5 an RLC SDU having the same content as sent by SS and RB6 having the content equal to the first 632 bits of the test data sent by the SS in downlink
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

14.2.51b.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB / 20 ms TTI + Interactive or background / UL:16 DL:64 kbps / PS RAB

14.2.51b.2.1 Conformance requirement

See 14.2.4.1.

14.2.51b.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51b for the 40 ms TTI case.

14.2.51b.2.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	**RB5 (Conv. 64 kbps)**	**RB6 (I/B 16 kbps)**	**DCCH**
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF0, TF1, TF0)
UL_TFC2	(TF0, TF2, TF0)
UL_TFC3	(TF1, TF0, TF0)
UL_TFC4	(TF1, TF1, TF0)
UL_TFC5	(TF1, TF2, TF0)
UL_TFC6	(TF0, TF0, TF1)
UL_TFC7	(TF0, TF1, TF1)
UL_TFC8	(TF0, TF2, TF1)
UL_TFC9	(TF1, TF0, TF1)
UL_TFC10	(TF1, TF1, TF1)
UL_TFC11	(TF1, TF2, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF0, TF1, TF0)
DL_TFC2	(TF0, TF2, TF0)
DL_TFC3	(TF0, TF3, TF0)
DL_TFC4	(TF0, TF4, TF0)
DL_TFC5	(TF1, TF0, TF0)
DL_TFC6	(TF1, TF1, TF0)
DL_TFC7	(TF1, TF2, TF0)
DL_TFC8	(TF1, TF3, TF0)
DL_TFC9	(TF1, TF4, TF0)
DL_TFC10	(TF0, TF0, TF1)
DL_TFC11	(TF0, TF1, TF1)
DL_TFC12	(TF0, TF2, TF1)
DL_TFC13	(TF0, TF3, TF1)
DL_TFC14	(TF0, TF4, TF1)
DL_TFC15	(TF1, TF0, TF1)
DL_TFC16	(TF1, TF1, TF1)
DL_TFC17	(TF1, TF2, TF1)
DL_TFC18	(TF1, TF3, TF1)
DL_TFC19	(TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1, DL_TFC11	UL_TFC1, UL_TFC7	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 2560 RB6: 312	RB5: No data RB6: 312
2	DL_TFC2, DL_TFC12	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 2560 RB6: 632	RB5: No data RB6: 632
3	DL_TFC3, DL_TFC13	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 2560 RB6: 632	RB5: No data RB6: 952
4	DL_TFC4, DL_TFC14	UL_TFC2, UL_TFC8	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 2560 RB6: 632	RB5: No data RB6: 1272
5	DL_TFC5, DL_TFC15	UL_TFC3, UL_TFC9	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 2560 RB6: 312	RB5: 2560 RB6: No data
6	DL_TFC6, DL_TFC16	UL_TFC4, UL_TFC10	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC6, UL_TFC7, UL_TFC9, UL_TFC10	RB5: 2560 RB6: 312	RB5: 2560 RB6: 312
7	DL_TFC7, DL_TFC17	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 2560 RB6: 632	RB5: 2560 RB6: 632
8	DL_TFC8, DL_TFC18	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 2560 RB6: 632	RB5: 2560 RB6: 952
9	DL_TFC9, DL_TFC19	UL_TFC5, UL_TFC11	DL_TFC0, DL_TFC10, UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC6, UL_TFC8, UL_TFC9, UL_TFC11	RB5: 2560 RB6: 632	RB5: 2560 RB6: 1272

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

RB6: Test data size has been set to DL TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the TTI for RB5 and RB6 is the same for both downlink and uplink then UL RLC SDU size has been set to achieve UE to return one SDU per TTI, i.e. the UL RLC SDU size for RB6 has been set equal to the uplink TFS size under test minus 8 bits (size of 7 bit length indicator and expansion bit).and .the UL RLC SDU size for RB5 has been set equal to the uplink TB size .

14.2.51b.2.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15a and step 15b the UE shall return

   - for sub-test 1, 2: an RLC SDU on RB6 having the same content as sent by SS; and no data shall be received on RB5.

   - for sub-test 3, 4: an RLC SDU on RB5 having the same content as sent by SS and on RB6 having the content equal to the first 632 bits of the test data sent by the SS in downlink

   - for sub-test 5: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.

   - for sub-test 6 , 7 : an RLC SDU on RB5 and RB6 having the same content as sent by SS

   - for sub-test 8 , 9 : on RB5 an RLC SDU having the same content as sent by SS and RB6 having the content equal to the first 632 bits of the test data sent by the SS in downlink

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

End of modified section

3GPP TSG- T1 Meeting #16
Yokohama, Japan, 2nd Aug 2002

T1-020559

3GPP TSG- T1 SIG Meeting #24
Yokohama, Japan, 29th July – 1st Aug 2002

T1S-020542

CR-Form-v6.1

CHANGE REQUEST

⌘	TS 34.123-1	CR	298	⌘	rev	-	⌘	Current version:	5.0.1	⌘
Spec Title:	User Equipment (UE) conformance specification; Part 1: Protocol conformance specification									⌘

*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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Additional test cases in clause 8 of TS34.123-1 as T1S-020365rev1
Source:	⌘	Panasonic
Work item code:	⌘	TEI
Date:	⌘	01/7/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘

1. Add new test cases according to T1S-020098 discussed in T1-Sig #21

2. Add new test cases according to T1S-020099 discussed in T1-Sig #21

3. Add new test cases from Anite and Panasonic comment

4. Add new test cases due to change of core specification (TS25.3313a0 • TS25.331b0)

- The behaviour of the UE when a re-establishment of RLC on signalling radio bearer RB3 occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC is not covered in this specification.

- This specification does not cover the case when SS requests the UE to perform a counter check on RAB that is configured with UM RLC in one direction (uplink or downlink) and TM RLC in another direction (downlink or uplink respectively).

Corrections to T1S-020365.

5. TC8.1.9.2 is changed to TC8.1.9.a to follow common procedure in T1SIG.

Summary of change: ⌘ **New corrections**

1. Following new hard handover test cases are added:

- Radio bearer release for transition from CELL_DCH to CELL_DCH: associated with signalling connection release during multi call for PS and

CS services (8.2.3.29)

- ~~(8.2.6.28)~~

- Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH with downlink channelisation code modification (8.2.6.28)
- Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH with compressed mode initiation (8.2.6.29)
- Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH with modify active set cell (8.2.6.30)

2. Following new state transition test cases are added:

- RRC Connection Establishment in FACH state with frequency band modification (8.1.2.11)
- RRC Connection Release in CELL_FACH state with frequency band modification (8.1.3.7)
- Radio bearer establishment for transition from CELL_DCH to CELL_DCH with frequency band modification (8.2.1.24)
- Radio bearer establishment for transition from CELL_FACH to CELL_FACH with frequency band modification (8.2.1.25)
- Radio bearer reconfiguration for transition from CELL_DCH to CELL_DCH with Frequency band modification (8.2.3.22)
- Radio bearer reconfiguration for transition from CELL_DCH to CELL_FACH with Transport channel type switching with frequency band modification (8.2.3.23)
- Radio bearer reconfiguration for transition from CELL_DCH to URA_PCH with Frequency band modification (8.2.3.24)
- Radio bearer reconfiguration for transition from CELL_DCH to CELL_PCH with Frequency band modification (8.2.3.25)
- Radio bearer reconfiguration for transition from CELL_FACH to CELL_DCH with Frequency band modification (8.2.3.26)
- Radio bearer release for transition from CELL_FACH to URA_PCH frequency band modification (8.2.3.27)
- Radio bearer release for transition from CELL_FACH to CELL_FACH with frequency band modification (8.2.3.28)
- Transport channel reconfiguration for transition from CELL_DCH to URA_PCH with frequency band modification (8.2.4.27)
- Transport channel reconfiguration for transition from CELL_FACH to URA_PCH (8.2.4.28)
- Transport channel reconfiguration for transition from CELL_DCH to CELL_DCH with frequency band modification (8.2.4.29)
- Transport channel reconfiguration from CELL_DCH to CELL_FACH with transport channel type switching and frequency band modification (8.2.4.30)
- Transport channel reconfiguration for transition from CELL_FACH to with CELL_FACH with frequency band modification (8.2.4.31)
- Transport channel reconfiguration for transition from CELL_FACH to CELL_PCH with frequency band modification (8.2.4.32)

- Transport channel reconfiguration for transition from CELL_FACH to URA_PCH with frequency band modification(8.2.4.33)
- Transport channel reconfiguration for transition for transition from CELL_FACH to CELL_PCH (8.2.4.26)
- Physical channel reconfiguration transition from CELL_FACH to URA_PCH (8.2.6.31)
- Physical channel reconfiguration for transition from CELL_DCH to URA_PCH with frequency band modification (8.2.6.32)
- Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH with frequency band modification (8.2.6.33)
- Physical channel reconfiguration from CELL_FACH to CELL_PCH with frequency band modification (8.2.6.34)
- Physical channel reconfiguration for transition from CELL_FACH to URA_PCH with frequency band modification (8.2.6.35)

3. Following new test cases are added from Anite and Panasonic comment:

- Clause 8.1.6.3 is added, the UE reports measurement results on INITIAL DIRECT TRANSFER and UPLINK DIRECT TRANSFER message 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.(from Anite comment)
- Clause 8.1.9.2 is added, UE re-transmits a SIGNALLING CONNECTION RELEASE INDICATION message after it re-establishes the RLC entity on signalling radio bearer RB2.(From Panasonic comment). This test case was agreed to be needed however, the contents are left as FFS.

4. Following new state transition test cases are added from change of core specification:

- Clause 8.1.6.4 is added to test the behaviour of the UE when a re-establishment of RLC on signalling radio bearer RB3 occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC. This test case was agreed to be needed however, the contents are left as FFS.
- Clause 8.1.8.3 is added to test the behaviour of the UE when SS requests the UE to perform a counter check on RAB that is configured with downlink UM RLC and uplink TM RLC

The modification is added in T1S-020365 as below with blue marker.

In clause 8.1.9.2

- The TC number is renumbered to 8.1.9.a.

The modification is added in T1S-020480 as below with green marker.

1. Following test case is added

- Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH with frequency band modification (8.2.6.36).

2. Following test case is removed because it has already proposed by T1S-020531 in T1-SIG#24

- Physical channel reconfiguration for transition from CELL_DCH to

		CELL_DCH (Hard handover to another frequency with timing Initialise): Success (8.2.6.28). The modification is added in T1S-020536 as below with blue marker. • Editorial correction to the title of 8.1.6.3.
Consequences if not approved:	⌘	1. Above hard handover on the available combinations of individual functions which operator would use are not tested. 2. Above state transition based on functions which operator would use are not tested. 3. Above functions in current state are not tested.

Clauses affected:	⌘			
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Affects R99, REL-4, REL-5		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.1.2.11 RRC Connection Establishment in FACH state (Frequency band modification): Success

8.1.2.11.1 Definition

8.1.2.11.2 Conformance requirement

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the UE storing "Initial UE identity".

If the values are different, the UE shall:

1> ignore the rest of the message.

If the values are identical, the UE shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified otherwise in the following:

2> if the UE will be in the CELL_FACH state at the conclusion of this procedure:

3> if the IE "Frequency info" is included:

4> select a suitable UTRA cell according to TS25.304 on that frequency;

3> select PRACH according to TS25.331 subclause 8.5.17;

3> select Secondary CCPCH according to TS5.331 subclause 8.5.19;

3> ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.

1> enter UTRA RRC connected mode, in a state according to TS25.331 subclause 8.6.3.3;

1> submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per TS25.331 subclause 8.6.3.3:

And the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.3.

8.1.2.11.3 Test purpose

To confirm that the UE enters to CELL_FACH state and correctly establishes signalling radio bearers using common physical channels of a cell within the frequency band specified by SS in RRC CONNECTION SETUP message.

8.1.2.11.4 Method of test

Initial Condition

System Simulator: 2 cells–Cells 1 is active and cell 6 is inactive.

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

Table 8.1.2.11

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-72

Table 8.1.2.11 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 Idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.1.2.11. The SS switches its downlink transmission power settings to columns “T1” and 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. The SS then transmits an RRC CONNECTION SETUP message containing an ~~IE "frequency info"~~ IE "Frequency info" set to uplink/downlink UARFCN as used for cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The SS monitors all uplink RACH channels of cell 6.The UE transmitting an RRC CONNECTION SETUP COMPLETE message on the DCCH (mapped onto RACH) of cell 6.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in Idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.2.11.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.2.11.
3	→		RRC CONNECTION REQUEST	Operator makes an outgoing call. The UE shall transmit this message, indicating the proper establishment cause.
4	←		RRC CONNECTION SETUP	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
5	→		RRC CONNECTION SETUP COMPLETE	UE shall send this message on the DCCH, carried by the assigned PRACH resources in cell 6.

Specific Message Content

RRC CONNECTION REQUEST (Step 3)

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
Establishment Cause	Originating Interactive Call or Originating Background Call or Originating Streaming Call
Measured results on RACH	Check to see if set in accordance with the IE "Intra-frequency reporting quantity for RACH Reporting" included in SYSTEM INFORMATION BLOCK Type ~~5~~11
- Measurement result for current cell	
- CHOICE mode	
- FDD	
- CHOICE measurement quantity	
- CPICH Ec/N0	The actual reported value is not checked

RRC CONNECTION SETUP (Step 4)

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 [9] TS 34.108 clause 9 with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

RRC CONNECTION SETUP COMPLETE (Step 5)

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.

8.1.2.11.5 Test requirement

After step 5 the UE shall transmit RRC CONNECTION SETUP COMPLETE message on the uplink DCCH in cell 6.

8.1.3.7 RRC Connection Release in CELL_FACH state (Frequency band modification): Success

8.1.3.7.1 Definition

8.1.3.7.2 Conformance requirement

When the UE receives the first RRC CONNECTION RELEASE message

the UE shall:

1> in state CELL_FACH:

2> if the RRC CONNECTION RELEASE message was received on the DCCH:

3> when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:

4> release all its radio resources; and

4> indicate the release of the established signalling connections ; and

4> pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;

4> enter idle mode;

4> perform the actions specified in TS25.331 subclause 8.5.2 when entering idle mode.

a) 3> and the procedure ends.

Reference

3GPP TS 25.331 clause 8.1.4.

8.1.3.7.3 Test purpose

To confirm that when the UE receives an RRC CONNECTION RELEASE message, the UE releases signalling radio bearer and its radio resources and goes back to the idle.

To confirm that the UE enters into idle mode ~~with~~by performing cell-selection and selecting other cell than the UE selecting cell in connected mode.

8.1.3.7.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.1.3.7

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-60	-60	off	-60

Table 8.1.3.7 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.7. SS request operator to make an outgoing call. The SS and UE execute procedure P4 or P6. Next The SS and the UE execute procedure P8 or P10. The SS switches its downlink transmission power settings to columns "T1" and then modifies SIB 3 to indicate that cell 1 is barred. The SS transmits an RRC CONNECTION RELEASE message. The UE shall transmit an RRC CONNECTION RELEASE COMPLETE message using UM on DCCH and try to enter idle mode state in cell 1. On selecting cell 1 the UE reads system information block 3 and is aware that cell 1 is barred cell. Hence the UE selects cell 6 and camp on cell 6. Upon completion of the procedure, the SS calls for generic procedure C.1 to check that UE is in idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.1.3.7. SS requests operator to make an outgoing call.
2			SS executes procedure P4 (clause 7.4.2.1.2) or P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3			SS executes procedure P8 (clause 7.4.2.3.2) or P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4				The SS switches its downlink transmission power settings to columns "T1" in table 8.1.3.7.
5			System Information Block type 3	The SS modifies SIB 3 in cell 1 to indicate that the cell is barred.
6				The SS waits for 5 s
7	←		RRC CONNECTION RELEASE	
8	→		RRC CONNECTION RELEASE COMPLETE	
9				The SS waits for 5s
10	←→		CALL C.1	If the test result of C.1 indicates that UE is in idle mode, the test passes, otherwise it fails.

Specific Message Content

System Information Block type 3 (Step 5)

Use the same message type found in clause 6 of TS 34.108, with the following exceptions:

Information Element	Value/remark
- Cell Access Restriction	
- Cell barred	Barred
- Intra-frequency cell re-selection indicator	Not allowed
- T_{barred}	10[s]
- 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 Barred10	barred
- Access Class Barred11	barred
- Access Class Barred12	barred
- Access Class Barred13	barred
- Access Class Barred14	barred
- Access Class Barred15	barred

8.1.3.7.5 Test requirement

After step 3 the UE shall transmit RRC CONNECTION RELEASE COMPLETE messages using AM on DCCH.

After step 9 the UE shall be in idle mode of cell 6.

>>> Next change <<<

8.1.6.3 Measurement Report on INITIAL DIRECT TRANSFER message and UPLINK DIRECT TRANSFER message

8.1.6.3.1 Definition

8.1.6.3.2 Conformance requirement

In CELL_FACH state, the UE shall:

1> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);

1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

Reference

3GPP TS 25.331, clause 8.1.8.2, 8.1.10.2

8.1.6.3.3 Test Purpose

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.

8.1.6.3.4 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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11 (Step 1)

Use the same message sub-type found in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/Remark
SIB12 indicator	FALSE
FACH measurement occasion info	Not Present
Measurement control system information	
- Use of HCS	Not used
- Cell selection and reselection quality measure	CPICH RSCP
- 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
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	Not present
- Read SFN Indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 1
- Primary CPICH TX power	Not Present
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info	Not present
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH RSCP
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- 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	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	TRUE
- Cell identity reporting indicator	FALSE
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting quantities for detected set cells	Not present
- Measurement Reporting Mode	
- Measurement Reporting Transfer Mode	Acknowledged mode RLC
- Periodic Reporting/Event Trigger Reporting Mode	Event trigger
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameters required for each event	
- Intra-frequency event identity	1a
- Triggering condition 1	Not Present
- Triggering condition 2	Monitored set cells
- Reporting Range Constant	15 dB
- Cells forbidden to affect reporting range	Not Present
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	0

Information Element	Value/Remark
- Replacement activation threshold	Not Present
- Time to trigger	60 ms
- Amount of reporting	Infinity
- Reporting interval	16 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
- CHOICE reported cell	
- Maximum number of reported cells	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

Test Procedure

The UE is initially in idle mode and camps on cell 1. SS prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. SS and UE shall execute out going call procedure. During this procedure UE transmits INITIAL DIRECT TRANSFER and UPLINK DIRECT TRANSFER messages with IE"Measured results on RACH" which is set to measured CPICH RSCP in the current cell.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in idle mode and camps onto cell 1.
2				SS prompts the test operator to make an outgoing call.
3	→		RRC CONNECTION REQUEST	
4	←		RRC CONNECTION SETUP	See default default message content (Transition to CELL_FACH)
5	→		RRC CONNECTION SETUP COMPLETE	See default message content
6	→		INITIAL DIRECT TRANSFER (SERVICE REQUEST)	See specific message content
7	←		DOWNLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING REQUEST)	See default default message content
8	→		UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE)	See specific message content
9	←		SECURITY MODE COMMAND	See default default message content
10	→		SECURITY MODE COMPLETE	See default default message content
11	→		UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST)	See specific message content
12	←		RADIO BEARER SETUP	See default default message content (Transition from CELL_FACH to CELL_FACH)
13	→		RADIO BEARER SETUP COMPLETE	See default default message content
14	←		DOWNLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT ACCEPT)	See default default message content

Specific Message Content

RRC CONNECTION REQUEST (Step 3)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH	
- Measurement result for current cell	
- CHOICE measurement quantity	Check to see if set to 'CPICH RSCP'
- CPICH RSCP	Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is absent.

INITIAL DIRECT TRANSFER (SERVICE REQUEST) (Step 6)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE) (Step 8)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST) (Step 11)

Use the default message with the same message type specified in clause 9 of TS 34.108, with the following exceptions:

Information Element	Value/remark
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH RSCP - Measurement results for monitored cells	 Check to see if set to 'CPICH RSCP' Checked to see if set to within an acceptable range. Checked to see if this IE is absent.

8.1.6.3.5 Test Requirement

After step 2 the UE shall transmit a RRC CONNECTION REQUEST message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP.

After step 5 the UE shall transmit a INITIAL DIRECT TRANSFER (SERVICE REQUEST) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP.

After step 7 the UE shall transmit a UPLINK DIRECT TRANSFER(AUTHENTICATION AND CIPHERING RESPONSE) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP.

After step 10 the UE shall transmit a UPLINK DIRECT TRANSFER(ACTIVATE PDP CONTEXT REQUEST) message which includes IE "measured results on RACH", containing the measurement value for cell 1's CPICH RSCP.

8.1. 6.4 Initial Direct Transfer (RLC re-establishment)

8.1.6.4.1 Definition

8.1.6.4.2 Conformance requirement

If a re-establishment of RLC on signalling radio bearer RB3 occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC, the UE shall:

1> retransmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3.

Reference

3GPP TS 25.331 clause 8.1.8.2a.

8.1.6.4.3 Test purpose

FFS

8.1.6.4.4 Method of test

FFS

8.1.6.4.5 Test requirement

FFS

>>> Next change <<<

8.1.8.3 Counter check in CELL_DCH state

8.1.8.3.1 Definition

8.1.8.3.2 Conformance requirement

When the UE receives a COUNTER CHECK message it shall compare the COUNT-C MSB values received in the IE "RB COUNT-C MSB information" in the COUNTER CHECK message to the COUNT-C MSB values of the corresponding radio bearers.

The UE shall:

1> if no COUNT-C exists for a radio bearer for a given direction (uplink or downlink) because:

2> it is a uni-directional radio bearer configured only for the other direction (downlink or uplink respectively), or

2> has been configured to RLC-TM mode in one direction (uplink or downlink) and RLC-UM in the other (downlink or uplink respectively),

3> set the COUNT-C in the IE "RB COUNT-C information" in the COUNTER CHECK RESPONSE message, to any value;

1> submit a COUNTER CHECK RESPONSE message to lower layers for transmission on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.15.

8.1.8.3.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message even if COUNT-C does not exist for a radio bearer for a given direction for reasons given in the above section.

8.1.8.3.4 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 domain supported by the UE.

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. SS sends a RADIO BEARER SETUP message to set up an asymmetric radio bearer. UE shall configure accordingly and then reply with a RADIO BEARER SETUP COMPLETE message. Then SS transmits a COUNTER CHECK message. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for RB9.

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	←		RADIO BEARER SETUP	See specific message contents for this message
3	→		RADIO BEARER SETUP COMPLETE	
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type indicated by "Non speech from CELL_DCH to CELL_DCH in CS" or "Speech from CELL_DCH to CELL_DCH in CS" or "Packet to CELL_DCH from CELL_DCH in PS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
RAB information for setup	
- RAB info	
- RAB identity	0000 1111B
- CN domain identity	PS domain or CS domain (depending on the domain supported by the UE)
- NAS Synchronization Indicator	Not Present
- Re-establishment timer	UseT315 (for PS domain) or UseT314 (for CS domain)
- RB information to setup	
- RB identity	9
- PDCP info	
- Support for lossless SRNS relocation	FALSE
- Max PDCP SN window size	Not present
- PDCP PDU header	Absent
- Header compression information	Not present
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	Not Present
- Segmentation indication	False
- 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	4
- Logical channel identity	Not Present
- CHOICE RLC size list	Configured
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	9
- 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	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	7
- CHOICE RLC size list	Explicit List
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	8
- 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	7
Added or Reconfigured TrCH information list	1 DCH added
- Added or Reconfigured UL TrCH information	
- Uplink transport channel type	DCH
- UL Transport channel identity	4
- 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 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
- 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 TrCH information list	1 DCH
Added or Reconfigured DL TrCH information	
- Downlink transport channel type	DCH
- DL Transport channel identity	9
- CHOICE DL parameters	Same as UL
- Uplink transport channel type	DCH
- UL TrCH identity	1
- DCH quality target	
- BLER Quality value	-2.0

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 COUNT-C MSB information	
- RB identity	9
- COUNT-C MSB uplink	Arbitrary
- COUNT-C MSB downlink	Set to current COUNT-C for RB#9 in downlink

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 9
- COUNT-C uplink	Not checked
- COUNT-C downlink	Check to see if set to COUNT-C for RB#9 in downlink

8.1.8.3.5 Test requirement

After step 2, the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 4, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE "COUNT-C downlink" to report COUNT-C value of RB#9.

>>> Next change <<<

8.1.9.~~2~~2a Signalling Connection Release Indication (RLC re-establishment)

8.1.9.~~2~~2a.1 Definition

8.1.9.~~2~~2a.2 Conformance requirement

If a re-establishment of RLC on signalling radio bearer RB2 occurs before the successful delivery of the SIGNALLING CONNECTION RELEASE INDICATION message has been confirmed by RLC, the UE shall:

1> retransmit the SIGNALLING CONNECTION RELEASE INDICATION message on the uplink DCCH using AM RLC on signalling radio bearer RB2.

Reference

3GPP TS 25.331 clause 8.1.14.2a.

8.1.9.2a.3 Test purpose

FFS

8.1.9.2a.4 Method of test

FFS

8.1.9.2a.5 Test requirement

FFS

>>> **Next change** <<<

8.2.1.24 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success

8.2.1.24.1 Definition

8.2.1.24.2 Conformance requirement

If the UE receives:

-a RADIO BEARER SETUP message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.1.24.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_DCH according to the RADIO BEARER SETUP message.

2. To confirm that the UE transmits the RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.1.24.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Table 8.2.1.24

Parameter	**Unit**	**Cell 1**		**Cell 6**	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.1.24 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.24. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER SETUP message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code which is assigned to P-CPICH of cell. The UE selects cell 6 and establish a radio access bearer after receiving this message, and then remains CELL_DCH state. The UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC after completes configuration according to receiving RADIO BEARER SETUP message. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.24.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.1.24.
3	←		RADIO BEARER SETUP	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
4				The UE select cell 6 and establish a radio access bearer.
5	→		RADIO BEARER SETUP COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER SETUP (Step 3)

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_DCH in PS" or “Speech in CS” in TS34.108 clause 9 Default Message Contents, or identical the message sub-type indicated by “Non speech in CS” in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.1.24.5 Test requirement

After step 4 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC in cell 6.

After step 5 the UE shall be in CELL_DCH state of cell 6.

>>> Next change <<<

8.2.1.25 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success

8.2.1.25.1 Definition

8.2.1.25.2 Conformance requirement

If the UE receives:

-a RADIO BEARER SETUP message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

3> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

3> when the cell update procedure completed successfully:

4> proceed as below.

In case the procedure was triggered by reception of a RADIO BEARER SETUP message, the UE shall:

1> transmit a RADIO BEARER SETUP COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.1.25.3 Test purpose

3. To confirm that the UE transits from CELL_FACH to CELL_FACH according to the RADIO BEARER SETUP message.

4. To confirm that the UE transmits RADIO BEARER SETUP COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.1.25.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.1.25

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.1.25 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.25. SS asks operator to make an outgoing call. The SS and UE execute procedure P6.

Next The SS and the UE execute procedure P10. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER SETUP message including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info". The UE selects cell 6 and initiates CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection". The UE remains CELL_FACH state. The UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC after completes configuration according to receiving RADIO BEARER SETUP message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.1.25. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.1.25.
5	←		RADIO BEARER SETUP	Including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info"
6	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
7	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
8	→		UTRAN MOBILITY INFORMATION CONFIRM	
9	→		RADIO BEARER SETUP COMPLETE	The UE sends this message on a common physical channel in cell 6.
10	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER SETUP (Step 5)

The contents of RADIO BEARER SETUP message in this test case are identical the message sub-type indicated by "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Frequency info	Not present
Downlink information for each radio links	Not present

CELL UPDATE (Step 6)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 7)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 8)

The contents of UTRAN MOBILITY UPDATE CONFIRM message are identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.1.25.5 Test requirement

After step 5 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

After step 7 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 6.

After step 8 the UE shall transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC in cell 6.

After step 9 the UE shall be in CELL_FACH state in cell 6.

>>> **Next change** <<<

8.2.2.27 Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success

8.2.2.27.1 Definition

8.2.2.27.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.27.3 Test purpose

5. To confirm that the UE transits from CELL_DCH to CELL_DCH according to the RADIO BEARER RECONFIGURATION message.

6. To confirm that the UE transmits the RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.2.27.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Table 8.2.2.27

Parameter	**Unit**	**Cell 1**		**Cell 6**	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.27 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.27. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code which is assigned to P-CPICH of cell 6. The UE shall select~~s~~ cell 6 and reconfigure its radio access bearer after receiving this message, and then remain~~s~~ in CELL_DCH state. The UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC after complete configuration according to receiving RADIO BEARER RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.27.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.27.
3	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
4	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
5	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 3)

The contents RADIO BEARER RECONFIGURATION message in this test case is identical the message sub-type indicated by "Packet to in PS" or “Speech in CS” or “Non speech from CELL_DCH to CELL_DCH in CS” in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.2.27.5 Test requirement

After step 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 4 the UE shall be in CELL_DCH state in cell 6.

>>> **Next change** <<<

8.2.2.28 Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_FACH (Transport channel type switching with frequency band modification): Success

8.2.2.28.1 Definition

8.2.2.28.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selects another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Cell reselection";

1> select PRACH according to TS25.331 subclause 8.5.17;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

2> perform a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.2.28.3 Test purpose

7. To confirm that the UE transits from CELL_DCH to CELL_FACH according to the RADIO BEARER RECONFIGURATION message.

8. To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.2.28.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 in active and cell 6 is inactive.

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.28

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.28 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.28. SS requests operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13.The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. On receiving the RADIO BEARER RECONFIGURATION message, the UE shall select cell 6 and transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC after complete configuration according to the RADIO BEARER RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.28. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.28.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE transmits this message on the common physical channel in cell 6.
8	←→		CALL C.2	f the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 5)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9[9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd) Downlink information for each radio link - Primary CPICH info - Primary Scrambling Code	 Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6 Set to same code as used for cell 6

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

After step 7 the UE shall be in CELL_FACH state.

>>> **Next change** <<<

8.2.2.29 Radio Bearer Reconfiguration for transition from CELL_DCH to URA_PCH (Frequency band modification): Success

8.2.2.29.1 Definition

8.2.2.29.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:
1> transmit a RADIO BEARER RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:
1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.29.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_DCH to URA_PCH according to the RADIO BEARER RECONFIGURATION message.
3. To confirm that the UE release dedicated physical channel and selects a common physical channel in a different frequency.

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8.2.2.29.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.29

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.29 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.29. SS request operator to make an outgoing call. The SS and UE execute procedure P5. Next the SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enter CELL_URA state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.29. SS request operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.29.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	UE transmit this message in cell 1 on the dedicated physical channel..
8				The SS waits for 5 s.
9	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
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 link	
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6

8.2.6.29.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.2.30 Radio Bearer Reconfiguration for transiton from CELL_DCH to CELL_PCH (Frequency band modification): Success

8.2.2.30.1 Definition

8.2.2.30.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info, and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according toTS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure completed successfully:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.30.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_DCH to CELL_PCH according to the RADIO BEARER RECONFIGURATION message.
3. To confirm that the UE releases the dedicated physical channel and selects a common physical channel in a different frequency.

8.2.2.30.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.30

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.30 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.30. SS request operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.30. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.3) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.3) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.3) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.30.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	UE transmit this message on the dedicated physical channel in cell 1
8				The SS waits for 5 s.
9			Call C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
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 link	
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6

8.2.2.30.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.2.31 Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success

8.2.2.13.1 Definition

8.2.2.31.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> remove any C-RNTI from MAC;

1> clear the C_RNTI.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.31.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_DCH according to the RADIO BEARER RECONFIGURATION message.

2. To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.2.31.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Test Procedure

Table 8.2.2.31

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-60	-60	Off	-60

Table 8.2.2.31 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.31. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall select cell 6 and then enter CELL_DCH state according to receiving RADIO BEARER RECONFIGURATION message. Finally the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.31.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.31.
3	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
4	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
5	←→		Call C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 3)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.2.31.5 Test requirement

After step 3 the UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 4 the UE shall be in CELL_DCH state in cell 6.

8.2.2.32 Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success

8.2.2.32.1 Definition

8.2.2.32.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

3> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

3> when the cell update procedure completed successfully:

4> proceed as below.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.32.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_FACH according to the RADIO BEARER RECONFIGURATION message.

2. To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.2.32.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include any information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.32

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.32 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.32. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall select cell 6 and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC after it completes configuration according to the received RADIO BEARER RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.32. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.3) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.3) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.3) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.32.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message on a common physical channel in cell 6.
8	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

The contents of RADIO BEARER RECONFIGURATION message in this test case are identical the message sub-type indicated by "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.2.32.5 Test requirement

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

After step 7 the UE shall be in CELL_FACH state of cell 6.

8.2.2.33 Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_PCH (Frequency band modification): Success

8.2.2.33.1 Definition

8.2.2.33.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.33.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the RADIO BEARER RECONFIGURATION message.
3. To confirm that the UE selects a common physical channel in a different frequency.

8.2.2.33.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 in active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include any information of cell 5 and cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Inter frequency cell id	2
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.33

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.33 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.2.33. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns “T1” and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state in cell 6. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.33. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.3) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.3) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.3) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.33.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	UE transmit this message on the common physical channel in cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
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 link	
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6

8.2.2.33.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.2.34 Radio Bearer Reconfiguration for transition from CELL_FACH to URA_PCH (Frequency band modification): Success

8.2.2.34.1 Definition

8.2.2.34.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

In case the procedure was triggered by reception of a RADIO BEARER RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause TS25.331 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.2.34.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the RADIO BEARER RECONFIGURATION message.
3. To confirm that the UE selects a common physical channel in a different frequency.

8.2.2.34.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 are active

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include any information of cell 5 and cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 5
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 5
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Inter frequency cell id	2
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.2.34

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.2.34 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.2.34. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns “T1” and transmits a RADIO BEARER RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall transmit a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		System Information Block type 11	The UE is in idle mode and camped on cell 1. The contents of System Information Block type 11 message are different from the default settings and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.2.34. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.2.34.
6	←		RADIO BEARER RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
7	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE transmit this message on the common physical channel. n cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.5	If the test result of C.4 indicates that UE is in URA_PCH state, the test passes, otherwise it fails

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
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 link	
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6

8.2.2.34.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

>>> Next change <<<

8.2.3.22 Radio Bearer Release for transition from CELL_FACH to CELL_PCH: Success

8.2.3.22.1 Definition

8.2.3.22.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.3, 8.5 and 8.6.

8.2.3.22.3 Test purpose

1. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the RADIO BEARER RELEASE message.

3. To confirm that the UE releases the radio access bearer and selects a common physical channel.

8.2.2.22.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a RADIO BEARER RELEASE message. The UE shall release all radio access bearer and enter CELL_PCH state after it transmits a RADIO BEARER RELEASE COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		RADIO BEARER RELEASE	
3	→		RADIO BEARER RELEASE COMPLETE	The UE transmits this message on uplink DCCH using AM RLC.
4				The SS waits for 5 s.
5	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.3.22.5 Test requirement

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

After step 4 the UE shall be in CELL_PCH state in cell 6.

>>> **Next change** <<<

8.2.3.23 Radio Bearer Release for transition from CELL_FACH to URA_PCH: Success

8.2.3.23.1 Definition

8.2.3.23.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS5.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS5.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.3, 8.5 and 8.6.

8.2.3.23.3 Test purpose

1. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the RADIO BEARER RELEASE message.

3. To confirm that the UE releases the radio access bearer and selects a common physical channel.

8.2.3.23.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a RADIO BEARER RELEASE message. The UE shall release all radio access bearers and enter URA_PCH•state after it transmits a RADIO BEARER RELEASE COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		RADIO BEARER RELEASE	
3	→		RADIO BEARER RELEASE COMPLETE	The UE transmits this message on uplink DCCH using AM RLC.
4				The SS waits for 5 s.
5	←→		CALL C.5	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3

8.2.2.23.5 Test requirement

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

After step 4 the UE shall be in URA_PCH state.

>>> **Next change** <<<

8.2.3.24 Radio Bearer Release for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success

8.2.3.24.1 Definition

8.2.3.24.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.24.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_DCH according to the RADIO BEARER RELEASE message.

2. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.3.24.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Table 8.2.4.24

Parameter	**Unit**	**Cell 1**		**Cell 6**	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-72

Table 8.2.3.24 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.24. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RELEASE message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code which is assigned to P-CPICH of cell 6. The UE shall select cell 6 and release the radio access bearer after receiving this message, and then remain in CELL_DCH state. The UE transmits a RADIO BEARER RELEASE COMPLETE message using AM RLC after it completes reconfiguration according to received RADIO BEARER RELEASE message. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.24.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.24.
3	←		RADIO BEARER RELEASE	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6.
4				The UE select cell 6.
5	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
6	←→		CALL C.3	If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 3)

The contents RADIO BEARER RELEASE message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_DCH in PS" or “Speech in CS” or “Non speech in CS” in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.3.24.5 Test requirement

After step 4 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 6.

After step 5 the UE shall be in CELL_DCH state in cell 6.

>> Next change <<<

8.2.3.25 Radio Bearer Release for transition from CELL_DCH to URA_PCH (Frequency band modification): Success

8.2.3.25.1 Definition

8.2.3.25.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.25.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_DCH to URA_PCH according to the RADIO BEARER RELEASE message.

3. To confirm that the UE releases radio access bearer, dedicated physical channel and selects a common physical channel in a different frequency.

8.2.3.25.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.3.25

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.3.25 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.3.25. SS requests operator to make an outgoing call. The SS and UE execute procedure P3 or P5. Next The SS and the UE execute procedure P7 or P9 and then execute procedure P11 or P13. The SS switches its downlink transmission power settings to columns “T1” and transmits a RADIO BEARER RELEASE message including no IE "Frequency info".The UE shall transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.25. SS requests operator to make an outgoing call.
2			SS executes procedure P3 (clause 7.4.2.1.2) or P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3			SS executes procedure P7 (clause 7.4.2.3.2) or P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4			SS executes procedure P11 (clause 7.4.2.5.2) or P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.25.
6	←		RADIO BEARER RELEASE	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		RADIO BEARER RELEASE COMPLETE	UE transmit this message on the dedicated physical channel in cell 1
8				The SS waits for 5 s.
9	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 6)

Use the same message sub-type titled “Speech to CELL_FACH from CELL_DCH in CS” or “Non speech to CELL_FACH from CELL_DCH in CS” or "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.3.25.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in URA_PCH state in cell 6.

8.2.3.26 Radio Bearer Release for transition from CELL_FACH to CELL_PCH (Frequency band modification): Success

8.2.3.26.1 Definition

8.2.3.26.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" , and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.26.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the RADIO BEARER RELEASE message.
3. To confirm that the UE releases radio access bearer and selects a common physical channel in a different frequency.

8.2.3.26.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.3.26

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.3.26 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.26. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and. transmits a RADIO BEARER RELEASE message including no IE "Frequency info" and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 1. The UE shall transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC and enter CELL_PCH state. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.26. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.26.
6	←		RADIO BEARER RELEASE	Including no IE "Frequency info" and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 1
7	→		RADIO BEARER RELEASE COMPLETE	UE transmit this message on the common physical channel in cell 1
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.3.26.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 1.

After step 10 the UE shall be in CELL_PCH state in cell 6.

>> Next change <<<

8.2.3.27 Radio Bearer Release for transition from CELL_FACH to URA_PCH (Frequency band modification): Success

8.2.3.27.1 Definition

8.2.3.27.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9.

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.27.3 Test purpose

1. To confirm that the UE transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the RADIO BEARER RELEASE message.

3. To confirm that the UE releases radio access bearer and selects a common physical channel in a different frequency.

8.2.3.27.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.3.27

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-72

Table 8.2.3.27 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.3.27. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns “T1” and transmits a RADIO BEARER RELEASE not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.27. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.27.
6	←		RADIO BEARER RELEASE	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		RADIO BEARER RELEASE COMPLETE	UE transmit this message on the common physical channel in cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	
Downlink information for each radio link	Not present

8.2.3.27.5 Test requirement

After step 6 the UE shall transmits a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 1.

After step 6 the UE shall be in URA_PCH state in cell 6.

>> Next change <<<

8.2.3.28 Radio Bearer Release for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success

8.2.3.28.1 Definition

8.2.3.28.2 Conformance requirement

If the UE receives:

-a RADIO BEARER RELEASE message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

3> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

3> when the cell update procedure completed successfully:

4> proceed as below.

In case the procedure was triggered by reception of a RADIO BEARER RELEASE message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.3.28.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_FACH according to the RADIO BEARER RELEASE message.

2. To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.3.28.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.3.28

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.3.28 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.28. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and transmits a RADIO BEARER RELEASE message including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info". The UE shall select cell 6 and initiates CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection" . The UE shall transmit a RADIO BEARER RELEASE COMPLETE message using AM RLC after it completes reconfiguration according to the received RADIO BEARER RELEASE message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.3.28. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P6 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P6 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.3.28.
6	←		RADIO BEARER RELEASE	Including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info" set to Primary Scrambling Code
7	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
8	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
9	→		UTRAN MOBILITY INFORMATION CONFIRM	
10	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message on a common physical channel in cell 6.
11	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RELEASE (Step 6)

The contents of RADIO BEARER RELEASE message in this test case are identical the message sub-type indicated by "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Not present

CELL UPDATE (Step 7)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 8)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 9)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.3.28.5 Test requirement

After step 6 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

After step 8 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 6.

After step 9 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC in cell 6.

After step 10 the UE shall be in CELL_FACH state in cell 6.

8.2.3.29 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Associated with signalling connection release during multi call for PS and CS services

8.2.3.29.1 Definition

8.2.3.29.2 Conformance requirement

If the UE receives:

- a RADIO BEARER RELEASE message:

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a RADIO BEARER RELEASE COMPLETE message as response message on the uplink DCCH using AM RLC.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.3.

8.2.3.29.3 Test purpose

To confirm that the UE releases the existing radio access bearer and signaling connection according to a RADIO BEARER RELEASE message.

8.2.3.29.4 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 CELL_DCH state of cell 1. The UE initiates a session setup to establish a PS signalling connection for multi call. Then UE and SS enter to multi call state. The SS transmits a DISCONNECT message to release a CS domain

signalling connection. After the CC procedure, SS transmit a RADIO BEARER RELEASE message which includes IE "Signalling Connection release indication" set to "CS domain" and new configuration for remained service to the UE. The UE shall configure the specified channel and transmit a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1.
2	→		INITIAL DIRECT TRANSFER (SERVICE REQUEST)	GMM (Session setup is initiated for multi call from UE side.)
3	←		DOWNLINK DIRECT TRANSFER (AUTHENTICATION AND CIPHERING REQUEST)	GMM
4	→		UPLINK DIRECT TRANSFER (AUTHENTICATION AND CIPHERING RESPONSE)	GMM
5	←		SECURITY MODE COMMAND	
6	→		SECURITY MODE COMPLETE	
7	→		UPLINK DIRECT TRANSFER (ACTIVATE PDP CONTEXT REQUEST)	SM
8	←		RADIO BEARER SETUP	
9	→		RADIO BEARER SETUP COMPLETE	
10	←		DOWNLINK DIRECT TRANSFER (ACTIVE PDP CONTEXT ACCEPT)	SM
11	←		DOWNLINK DIRECT TRANSFER (DISCONNECT)	CC
12	→		UPLINK DIRECT TRANSFER (RELEASE)	CC
13	←		DOWNLINK DIRECT TRANSFER (RELEASE COMPLETE)	CC
14	←		RADIO BEARER RELEASE	Including IE "signalling connection indication" set to "CS domain"
15	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (STEP 14)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled as "Non speech in CS" or "Speech in CS" as found in Annex.A, with the following exceptions

Information Element	Value/remark
Signalling Connection release indication - CN domain identity	CS domain

8.2.3.29.5 Test requirement

After step 14 the UE shall transmit a RADIO BEARER RELEASE COMPLETE message.

>> Next change <<<

8.2.4.26 Transport Channel Reconfiguration for transition from CELL_FACH to CELL_PCH: Success

8.2.4.26.1 Definition

8.2.4.26.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS5.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info, and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.3, 8.5 and 8.6.

8.2.4.26.3 Test purpose

1. To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.26.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state according to its message. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		TRANSPORT CHANNEL RECONFIGURATION	
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message on uplink DCCH using AM RLC..
4				The SS waits for 5 s.
5	←		CALL C.	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.4.26.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC.

After step 4 the UE shall be in CELL_PCH state.

8.2.4.27 Transport Channel Reconfiguration for transition from CELL_DCH to URA_PCH (Frequency band modification): Success

8.2.4.27.1 Definition

8.2.4.27.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.27.3 Test purpose

1. To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_DCH to URA_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.

3. To confirm that the UE release the dedicated physical channel and reconfigures transport channel parameters and selects a common physical channel in a different frequency.

8.2.4.27.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.27

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.27 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.4.27. SS requests operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns “T1” and transmits a TRANSPORT CHANNEL RECONFIGURATION message not including IE "Frequency info” and IE "Primary CPICH info". The UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enters CELL_URA state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.27. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.27.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE transmit this message on the dedicated physical channel in cell 1
8				The SS waits for 5 s.
9	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.4.27.5 Test requirement

After step 6 the UE shall transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.4.28 Transport Channel Reconfiguration for transition from CELL_FACH to URA_PCH: Success

8.2.4.28.1 Definition

8.2.4.28.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.3, 8.5 and 8.6.

8.2.4.28.3 Test purpose

1. To confirm that the UE transmits the TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.
3. To confirm that the UE reconfigures the transport channel parameters and selects a common physical channel.

8.2.4.28.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE shall reconfigure its transport channel parameters and enter URA_PCH state after it transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		TRANSPORT CHANNEL RECONFIGURATION	
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message on uplink DCCH using AM RLC.
4	←			The SS waits for 5 s.
5	←→		CALL C.5	If the test result of C.5 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3

8.2.4.28.5 Test requirement

After step 2 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC.

After step 4 the UE shall be in URA_PCH state.

8.2.4.29 Transport Channel Reconfiguration for transition from CELL_DCH to CELL_DCH (Frequency band modification): Success

8.2.4.29.1 Definition

8.2.4.29.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.29.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_DCH according to the TRANSPORT CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits the TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.4.29.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Table 8.2.4.29

Parameter	**Unit**	**Cell 1**		**Cell 6**	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.29 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.29. The SS switches its downlink transmission power settings to columns "T1" and transmits a TRANSPORT CHANNEL RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code which is assigned to P-CPICH of cell 6. The UE shall select cell 6 and reconfigure its transport channel parameters after receiving this message, and then remain in CELL_DCH state. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC after completes configuration according to receiving TRANSPORT CHANNEL RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.29.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.29.
3	←		TRANSPORT CHANNEL RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
4				The UE select cell 6.
5	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
6	←→			If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

The contents TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_DCH in PS" or “Speech in CS” or “Non speech from in CS” in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.4.29.5 Test requirement

After step 4 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 5 the UE shall be in CELL_DCH state in cell 6.

8.2.4.30 Transport Channel Reconfiguration from CELL_DCH to CELL_FACH (Transport channel type switching with frequency band modification): Success

8.2.4.30.1 Definition

8.2.4.30.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "Cell reselection";

1> select PRACH according to TS25.331 subclause 8.5.17;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

2> perform a cell update procedure according to TS 25.331 subclause 8.3.1 using the cause "Cell reselection";

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.30.3 Test purpose

1. To confirm that the UE transits from CELL_DCH to CELL_FACH according to the TRANSPORT CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.4.30.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- Qoffset1$_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.30

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.30 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 idle of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.30. SS requests operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and transmits a TRANSPORT CHANNEL RECONFIGURATION message not including IE "Frequency info" and IE "Primary CPICH info". The UE shall select cell 6 and initiate CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection". Upon completion of the cell update procedure, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC after it completes configuring of transport channel parameters according to SIB5 or SIB6 . Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.30. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.30.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
8	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
9	→		UTRAN MOBILITY INFORMATION CONFIRM	
10	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message on the common physical channel in cell 6.
11	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with the following exception:

Information Element	Value/remark
Frequency info	Not present
Downlink information for each radio link	Not present

CELL UPDATE (Step 7)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 8)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 9)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.4.30.5 Test requirement

After step 6 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

After step 8 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 6.

After step 9 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 10 the UE shall be in CELL_FACH state of cell 6.

8.2.4.31 Transport Channel Reconfiguration for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success

8.2.4.31.1 Definition

8.2.4.31.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

3> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

3> when the cell update procedure completed successfully:

4> proceed as below.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.31.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_FACH according to the TRANSPORT CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.4.31.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.31

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.31 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.31. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and transmits a TRANSPORT CHANNEL RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 but not IE "Primary CPICH info". The UE shall select cell 6 and initiates CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection". The UE shall reconfigure its transport channel parameters after completing cell reselection procedure, and then remain in CELL_FACH state. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC after it completes configuration according to the received TRANSPORT CHANNEL RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.31. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.31.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6
7	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
8	←		CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
9	→		UTRAN MOBILITY INFORMATION CONFIRM	
10	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message on a common physical channel in cell 6.
11	←→		CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 6)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case are identical the message sub-type indicated by "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

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	Not present

CELL UPDATE (Step 7)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 8)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 9)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.4.31.5 Test requirement

After step 6 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

After step 8 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 6.

After step 9 the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 10 the UE shall be in CELL_FACH state in cell 6.

8.2.4.32 Transport Channel Reconfiguration for transition from CELL_FACH to CELL_PCH (Frequency band modification): Success

8.2.4.32.1 Definition

8.2.4.32.2 Conformance requirement

If the UE receives:

- a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.32.3 Test purpose

1. To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.

3. To confirm that the UE selects a common physical channel in a different frequency.

8.2.4.32.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 in active and cell 6 inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.32

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.32 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 idle mode of cell1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.32. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state in cell 6. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.32. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.32.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE transmit this message on the common physical channel in cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not Present
Downlink information for each radio link	

8.2.4.32.5 Test requirement

After step 6 the UE shall transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.4.33 Transport channel reconfiguration for transition from CELL_FACH to URA_PCH (Frequency band modification): Success

8.2.4.33.1 Definition

8.2.4.33.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.33.3 Test purpose

1. To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.

3. To confirm that the UEreconfigures the transport channel parameters and selects a common physical channel in a different frequency.

8.2.4.33.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.33

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.33 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.4.33. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns “T1” and transmits a TRANSPORT CHANNEL RECONFIGURATION not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.33. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.33.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Not including IE "Frequency info" set to and IE "Primary CPICH info"
7	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE transmit this message 1 on the common physical channel in cell 1.
8	←			The SS transmits this message with a matched identity.
9	→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION COMPLETE (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.4.33.5 Test requirement

After step 6 the UE shall transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in URA_PCH state in cell 6.

8.2.4.34 Transport channel reconfiguration for transition from CELL_DCH to CELL_PCH (Frequency band modification): Success

8.2.4.34.1 Definition

8.2.4.34.2 Conformance requirement

If the UE receives:

-a TRANSPORT CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a TRANSPORT CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info"and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info"

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure completed successfully:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.4.34.3 Test purpose

1. To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_DCH to CELL_PCH according to the TRANSPORT CHANNEL RECONFIGURATION message.
3. To confirm that the UE release the dedicated physical channel and selects a common physical channel in a different frequency.

8.2.4.34.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.4.34

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.4.34 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 idle modeof cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.34. SS requests operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns "T1" and transmits a TRANSPORT CHANNEL RECONFIGURATION message not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state. The UE shall select cell 6 and initiate CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.4.34. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.4.34.
6	←		TRANSPORT CHANNEL RECONFIGURATION	Not including IE "Frequency info" and no IE "Primary CPICH info"
7	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE transmit this message on the dedicated physical channel in cell 1.
8	→		CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
9	←		CELL UPDATE CONFIRM	IE "RRC State Indicator" is set to "CELL_PCH".

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 3)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

CELL UPDATE (Step 6)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 7)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
RRC State Indic	CELL_PCH
UTRAN DRX cycle length coefficient	3

8.2.4.34.5 Test requirement

After step 6 the UE shall transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 7 the UE shall transmit a CELL UPDATE message on the CCCH with IE "Cell update cause" set to "cell reselection" in cell 6.

>> Next change <<<

8.2.6.28 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Downlink channelisation code modification): Success

8.2.6.28.1 Definition

8.2.6.28.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6..

8.2.6.28.3 Test purpose

1. To confirm that the UE change assigned downlink channelisation code by SS according to a PHYSICAL CHANNEL RECONFIGURATION message.
2. To confirm that the UE response PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC

8.2.6.28.4 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 to the CN domain(s) supported by the UE.

Test Procedure

The UE is in CELL_DCH state of cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes IE " DL channelisation code " set to New DL channelisation code. The UE shall change its downlink channelisation code for a dedicated physical channel, and then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH AM RLC. The SS transmits UE CAPABILITY ENQUIRY message to confirm whether the UE correctly reconfigure the DL DPCH The UE shall respond with UE CAPABILITY INFORMATION message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1. .
2	←		PHYSICAL CHANNEL RECONFIGURATION	Including IE " DL channelisation code " set to New DL channelisation code
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
4	←		UE CAPABILITY ENQUIRY	The SS transmits this message to confirm whether the UE can correctly reconfigure the DL DPCH.
5	→		UE CAPABILITY INFORMATION	
6	←		UE CAPABILITY INFORMATION CONFIRM	

Specific Message Contents

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Downlink information for each radio link list - Downlink information for each radio link - Downlink DPCH info for each RL - DL channelisation code - Spreading factor	Same value as a RADIO BEARER SETUP message used in initial procedure.
- Code number	Different value as a RADIO BEARER SETUP message used in initial procedure

8.2.6.28.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After step 4 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH using AM RLC.

8.2.6.29 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Compressed mode initiation): Success

8.2.6.29.1 Definition

8.2.6.29.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6..

8.2.6.29.3 Test purpose

1. To confirm that the UE activates compressed mode according to a PHYSICAL CHANNEL RECONFIGURATION message.
2. To confirm that the UE response PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after compressed mode is activated.
3. To confirm that the UE deactivates compressed mode according to a PHYSICAL CHANNEL RECONFIGURATION message.
4. To confirm that the UE response PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC after compressed mode is deactivated..

8.2.6.29.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive

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 to the CN domain(s) supported by the UE.

Test Procedure

Table 8.2.6.29

Parameter	Unit	Cell 1				Cell 6			
		T0	T1	T2	T3	T0	T1	T2	T3
UTRA RF Channel Number		Ch. 1				Ch. 2			
CPICH Ec	dBm/3.84MHz	-60	-60	-60	-60	Off	-60	-90	-60

Table 8.2.6.29 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"or "T1" to "T2" or "T2" to "T3", whenever the description in multi-cell condition specifies the transmission power settings for cell 1 and cell 6.

The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.6.29. The SS transmits MEASUREMENT CONTROL message in order for the UE to perform Inter-frequency measurements and report event 2c. The SS switches its downlink transmission power setting according to columns “T1” in table 8.2.6.29, but the UE shall not transmit any MEASUREMENT REPORT messages. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE "DPCH compressed mode info" with "TGPS Status Flag" set to "Activate". The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. The UE shall transmit MEASUREMENT REPORT message to report event 2c with the measured CPICH RSCP value for cell 6 to the SS. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message, which includes IE"DPCH compressed mode info" with "TGPS Status Flag" set to "deactivate". The UE shall respond with the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. After the SS switches its downlink transmission power settings to columns "T2" in table 8.2.6.29 and 10s is passed, the SS switches its downlink transmission power settings to columns "T3" in table 8.2.6.29. The UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH because the UE cannot measure the CPICH RSCP on non used frequency as the compressed mode operation has been deactivated.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.29.
2			MEASUREMENT CONTROL	SS commands the UE to perform Inter-frequency measurements and to report event 2c.
3				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.29.
4				The SS checks that no MEASUREMENT REPORT messages receives for 10 s.
5		←	PHYSICAL CHANNEL RECONFIGURATION	Including IE"DPCH compressed mode info", which include parameter "TGPS Status Flag" set to activate.
6		→	PHYSICAL CHANNEL _RECONFIGURATION COMPLETE	
7			MEASUREMENT REPORT	The UE shall report event 2c with the measured CPICH RSCP value for cell 6.
8		←	PHYSICAL CHANNEL RECONFIGURATION	Including IE"DPCH compressed mode info", which include parameter "TGPS Status Flag" set to deactivate.
9		→	PHYSICAL CHANNEL _RECONFIGURATION COMPLETE	
10				The SS switches its downlink transmission power settings to columns "T2" in table 8.2.6.29.
11				After 10 s is passed ,the SS switches its downlink transmission power settings to columns "T3" in table 8.2.6.29.
12				The SS checks that no MEASUREMENT REPORT messages receives for 10 s..

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Use the same message sub-type found in [9] TS 34.108 clause 9, with the following exceptions in the IE(s) concerned:

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 Mode	Event Trigger
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency measurement object list	
- Inter-frequency cell info list	
- CHOICE inter-frequency cell removal	No inter-frequency cells removed
- New inter-frequency cells	
- Inter-frequency cell id	6
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell 6
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Read SFN Indicator	
- CHOICE Mode	FDD
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 6
- Primary CPICH TX power	Not Present
- Primary CPICH TX power	
- TX Diversity Indicator	Not Present
- Cell for measurement	Not Present
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- CHOICE Mode	FDD
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference reporting indicator	No report
- Cell synchronisation information reporting indicator	FALSE
- Cell Identity reporting indicator	TRUE
- COICE Mode	FDD
- CPICH Ec/No reporting indicator	FALSE
- CPICH RSCP reporting indicator	TRUE
- Pathloss reporting indicator	FALSE
- Reporting cell status	Not present
- Measurement validity	
- UE state	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not present
- W used frequency	Not present
- Hysteresis	1.0 dB
- Time to trigger	10 [ms]
- Reporting cell status	
- CHOICH reported cell	Report cells within monitored and/or virtual active set on non-used frequency
- Maximum number of reported cells per	1

reported non-used frequency - Parameters required for each non-used frequency - Threshold non used frequency - W non-used frequency DPCH compressed mode status info	 -68dbm 0 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 titled as "Speech in CS" or "Non speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indication	Maintain
- CFN-target SFN frame offset	Not Present
- Downlink DPCH power control information	
- CHOICE Mode	FDD
-DPC Mode	0 (Single)
- CHOICE Mode	FDD
- Power offset Pilot-DPDCH	0
- 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, 256)	Not Present
- CHOICE mode	FDD
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	activate
- TGCFN	(Current CFN+(256 – TTI/10msec)) mod256
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	Infinity
- TGSN	4
- TGL1	7
- TGL2	Not Present
- TGD	0
- TGPL1	3
- TGPL2	Not Present
- RPP	mode 0
- ITP	mode 0
- CHOICE UL/DL Mode	DL and UL
- Downlink compressed mode method	SF/2
- Downlink frame type	B
- 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	Not Present
- SSDT information	Not Present
- Default DPCH Offset Value	Not Present

MEASUREMENT REPORT (Step 7)

The contents of MEASUREMENT REPORT message is the same as them found in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Measurement Identity	Check to see if set to 15
Measured Results	
- CHOICE Measurement	
- Inter frequency measured results list	Check to see if set to “Inter-frequency measured results list”
- Inter frequency measurement results	
- Frequency info	
- CHOICE	FDD
- UARFCN uplink (Nu)	Check to see if set to the UARFCN of the uplink frequency for cell 6
- UARFCN downlink (Nd)	Check to see if set to the UARFCN of the downlink frequency for cell 6
- UTRA carrier RSSI	Not checked
- Inter frequency cell measurement results	
- Cell measured results	

- Cell Identity	Not checked
- SFN-SFN observed time difference	Not checked
- Cell synchronisation information	Not checked
- CHOICE Mode	FDD
- Primary CPICH Info	Not checked
- CPICH Ec/No	Not checked
- CPICH RSCP	Check to see if it is present
- Pathloss	Not checked
Measured Results on RACH	Not checked
Additional Measured results	Not checked
- Measured Result	
Event results	Not checked

PHYSICAL CHANNEL RECONFIGURATION (Step 8)

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	**Value/remark**
Downlink information common for all radio links	Not present
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	deactivate
- TGCFN	Not present
- Transmission gap pattern sequence configuration parameters	Not present

8.2.6.29.5 Test requirement

After step 3 the UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH.

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

After step 6 the UE shall transmit a MEASUREMENT REPORT message containing the IE "measured results" reporting cell 6's CPICH RSCP value, also report the triggering of event ‘2c’ included in IE "Event results".

After step 8 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

After 11 the UE shall not transmit any MEASUREMENT REPORT messages on the uplink DCCH.

8.2.6.30 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Modify active set cell): Success

8.2.6.30.1 Definition

8.2.6.30.2 Conformance requirement

If the UE receives:

- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.30.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel of same frequency in another cell.

8.2.6.30.4 Method of test

Initial Condition

System Simulator: 2 cells–Cells 1 is active and cell 6 is inactive.

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 to the CN domain(s) supported by the UE.

Test Procedure

Table 8.2.6.30

Parameter	**Unit**	**Cell 1**		**Cell 2**	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 1	
CPICH Ec	dBm/ 3.84 MHz	-60	-60	Off	-60

Table 8.2.6.30 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 CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.30. The SS switches its downlink transmission power settings to columns "T1" and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 2 and IE "Timing indicator" set to "initialise".. The UE shall reconfigure the physical channel parameters according to PHYSICAL CHANNEL RECONFIGURATION message and initiate to synchronise with new dedicated physical channel in cell 2. The UE shall then transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message in cell 2 on the uplink DCCH AM RLC after synchronization.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_DCH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.30.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.30.
3	←		PHYSICAL CHANNEL RECONFIGURATION	Including IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 2 and IE "Timing indicator" which is set to 'initialise'.
4				The UE remains in CELL_DCH state after connecting to the SS on a dedicated physical channel in cell 2.
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message in cell 2.

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 [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing Indicator	initialise
- Default DPCH Offset Value	0
Downlink information for each radio links	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 2

8.2.6.30.5 Test requirement

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC in cell 2.

8.2.6.31 Physical channel reconfiguration transition from CELL_FACH to URA_PCH: Success

8.2.6.31.1 Definition

8.2.6.31.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS5.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.3, 8.5 and 8.6.

8.2.6.31.3 Test purpose

1. To confirm that the UE transmits the PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.31.4 Method of test

Initial Condition

System Simulator: 1 cell– Cell 1 is active.

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 of cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE shall enter URA_PCH state according to this message after it transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1.
2	←		PHYSICAL CHANNEL RECONFIGURATION	
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE transmits this message on uplink DCCH using AM RLC.
4				The SS waits for 5 s.
5				If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3

8.2.2.31.5 Test requirement

After step 2 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC.

After step 4 the UE shall be in URA PCH state.

8.2.6.32 Physical channel reconfiguration for transition from CELL_DCH to URA_PCH (Frequency band modification): Success

8.2.6.32.1 Definition

8.2.6.32.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS25.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.32.3 Test purpose

1. To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_DCH to URA_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.

3. To confirm that the UE releases the dedicated physical channel and selects a common physical channel in a different frequency.

8.2.6.32.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive

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).

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.6.32

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.32 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.6.32. SS requests operator to make an outgoing call. The SS and UE execute procedure P5. Next The SS and the UE execute procedure P9 and then execute procedure P13. The SS switches its downlink transmission power settings to columns “T1” and transmits a PHYSICAL CHANNEL RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.32. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P5 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure) P9 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P13 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.32.
6	←		PHYSICAL CHANNEL RECONFIGURATION	Not including IE "Frequency info"
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE transmit this message on the dedicated physical channel in cell 1
8				The SS waits for 5 s.
9	←→		CALL C.5	If the test result of C.5 indicates that UE is in URA_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present

8.2.6.32.5 Test requirement

After step 3 the UE shall transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in URA_PCH state in cell 6.

8.2.6.33 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH (Frequency band modification): Success

8.2.6.33.1 Definition

8.2.6.33.2 Conformance requirement

If the UE receives:

- a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> perform the physical layer synchronisation procedure as specified in TS25.214;

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

The UE shall then:

1> enter a state according to TS25.331 subclause 8.6.3.3.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> remove any C-RNTI from MAC;

1> clear the C_RNTI.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC, using the new configuration after the state transition.

1> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.33.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_DCH according to the PHYSICAL CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a dedicated physical channel in a different frequency.

8.2.6.33.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 is active and cell 6 is inactive.

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

Test Procedure

Table 8.2.6.33

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.33 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.33. The SS switches its downlink transmission power settings to columns "T1" and transmits a PHYSICAL CHANNEL RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6. The UE shall select cell 6 and change its physical channel configuration after receiving this message and then enter CELL_DCH state. Finally the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC. Upon completion of the procedure, the SS calls for generic procedure C.3 to check that UE is in CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.33.
2				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.33.
3	←		PHYSICAL CHANNEL RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and IE "Primary CPICH info" set to Primary Scrambling Code assigned to P-CPICH of cell 6
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message on a dedicated physical channel in cell 6.
5	←→			If the test result of C.3 indicates that UE is in CELL_DCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in [9] TS 34.108 clause 9, with the following exception:

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	
- Primary CPICH info	
- Primary Scrambling Code	Set to same code as used for cell 6

8.2.6.33.5 Test requirement

After step 3 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 4 the UE shall be in CELL_DCH state in cell 6.

8.2.6.34 Physical channel reconfiguration from CELL_FACH to CELL_PCH (Frequency band modification): Success

8.2.6.34.1 Definition

8.2.6.34.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters CELL_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE:

2> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

2> when the cell update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2.

8.2.6.34.3 Test purpose

1. To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.

2. To confirm that the UE transits from CELL_FACH to CELL_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.

3. To confirm that the UE selects a common physical channel in a different frequency.

8.2.6.34.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.6.34

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.34 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns “T0” in table 8.2.6.34. SS requests operator to make an outgoing call. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns “T1” and. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter CELL_PCH state in cell 6. Upon completion of the procedure, the SS calls for generic procedure C.4 to check that UE is in CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.34. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.34.
6	←		RADIO BEARER RECONFIGURATION	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		RADIO BEARER RECONFIGURATION COMPLETE	The UE transmit this message on the common physical channel in cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 6)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	CELL_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.6.34.5 Test requirement

After step 6 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on uplink DCCH using AM RLC in cell 1.

After step 8 the UE shall be in CELL_PCH state in cell 6.

8.2.6.35 Physical channel reconfiguration for transition from CELL_FACH to URA_PCH (Frequency band modification): Success

8.2.6.35.1 Definition

8.2.6.35.2 Conformance requirement

If the UE receives:

-a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH using AM RLC, using the old configuration before the state transition.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> select Secondary CCPCH according to TS25.331 subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in TS25.331 subclause 8.6.3.2.

1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

2> keep the configuration existing before the reception of the message and transmit a failure response message as specified in TS25.331subclause 8.2.2.9

1> if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to TS25.331 subclause 8.3.1 is fulfilled:

2> initiate a URA update procedure according to TS5.331 subclause 8.3.1 using the cause "URA reselection";

2> when the URA update procedure is successfully completed:

3> the procedure ends.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.35.3 Test purpose

1. To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC.
2. To confirm that the UE transits from CELL_FACH to URA_PCH according to the PHYSICAL CHANNEL RECONFIGURATION message.
3. To confirm that the UE selects a common physical channel in a different frequency.

8.2.6.35.4 Method of test

Initial Condition

System Simulator: 2 cells–Cell 1 in active and cell 6 is inactive

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not Present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.6.35

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.35 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 idle mode of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.35. SS requests operator to make an outgoing call. The SS switches its downlink transmission power settings to columns "T1" and transmits a PHYSICAL CHANNEL RECONFIGURATION message not including IE "Frequency info" and IE "Primary CPICH info". The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC and enter URA_PCH state of cell 6. Upon completion of the procedure, the SS calls for generic procedure C.5 to check that UE is in URA_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.35. SS requests operator to make an outgoing call.
2	←→		SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3	←→		SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4	←→		SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.35.
6	←		PHYSICAL CHANNEL RECONFIGURATION	Not including IE "Frequency info" and IE "Primary CPICH info"
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE transmit this message on the common physical channel in cell 1.
8				The SS waits for 5 s.
9	←→		CALL C.4	If the test result of C.4 indicates that UE is in CELL_PCH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in [9] TS 34.108 clause 9 with following exceptions:

Information Element	Value/remark
RRC State Indicator	URA_PCH
UTRAN DRX cycle length coefficient	3
Frequency info	Not present
Downlink information for each radio link	Not present

8.2.6.35.5 Test requirement

After step 3 the UE shall transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 1.

After step 8 the UE shall be in URA_PCH state in cell 6.

>>> **Next change** <<<

8.2.6.36 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH (Frequency band modification): Success

8.2.6.36.1 Definition

8.2.6.36.2 Conformance requirement

If the UE receives:

- a PHYSICAL CHANNEL RECONFIGURATION message;

it shall:

1> act upon all received information elements as specified in TS25.331 subclause 8.6, unless specified in the following and perform the actions below.

1> enter a state according to TS25.331 subclause 8.6.3.3.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to TS25.304 on that frequency;

2> if the received reconfiguration message included the IE "Primary CPICH info", and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info":

3> initiate a cell update procedure according to TS25.331 subclause 8.3.1 using the cause "cell reselection";

3> when the cell update procedure completed successfully:

4> proceed as below.

In case the procedure was triggered by reception of a PHYSICAL CHANNEL RECONFIGURATION message, the UE shall:

1> transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE as response message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2, 8.5 and 8.6.

8.2.6.36.3 Test purpose

1. To confirm that the UE transits from CELL_FACH to CELL_FACH according to the PHYSICAL CHANNEL RECONFIGURATION message.

2. To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC on a common physical channel in a different frequency.

8.2.6.36.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and cell 6 is inactive.

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".

Specific Message Content

For system information block 11 for Cell 1 (gives IE's which are different from defaults given in 34.108 sec 6.1) to be transmitted before idle update preamble.

System Information Block type 11 (Step 1)

Use same message sub-clause 6.1 of TS34.108, with following exception:

Information Element	Value/remark
- SIB12 indicator	FALSE
- Intra-frequency measurement system information	
- Intra-frequency cell info list	This IE don't include information of cell 6
- Inter-frequency measurement system information	
- Inter-frequency cell info list	
- New inter-frequency cell id	
- Inter frequency cell id	1
- Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
- Cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not present
- Read SFN indicator	FALSE
- CHOICE mode	FDD
- Primary CPICH info	
- Primary scrambling code	Set to same code as used for cell 6
- Primary CPICH Tx power	Not present
- Cell Selection and Re-selection Info	
- $Qoffset1_{s,n}$	0dB
- Qoffset2s,n	Not present
- Maximum allowed UL TX power	Reference to table 6.1.1
- HCS neighbouring cell information	Not present
- CHOICE mode	FDD
- Qqualmin	Reference to table 6.1.1
- Qrxlevmin	Reference to table 6.1.1
- Cell for measurement	Not present

Test Procedure

Table 8.2.6.36

Parameter	Unit	Cell 1		Cell 6	
		T0	T1	T0	T1
UTRA RF Channel Number		Ch. 1		Ch. 2	
CPICH Ec	dBm/ 3.84 MHz	-55	-72	Off	-55

Table 8.2.6.36 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 CELL_FACH state of cell 1 and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.36. The SS modifies the contents of System formation block 11 in cell 1, so that include IE "Inter frequency measurement system information" about cell 6. The SS and UE execute procedure P6. Next The SS and the UE execute procedure P10 and then execute procedure P14. The SS switches its downlink transmission power settings to columns "T1" and transmits a PHYSICAL CHANNEL RECONFIGURATION message including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info". The UE selects cell 6 and initiates CELL UPDATE procedure with IE "Cell update cause" set to "cell reselection". The UE transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC after complete configuration according to receiving PHYSICAL CHANNEL RECONFIGURATION message. Upon completion of the procedure, the SS calls for generic procedure C.2 to check that UE is in CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	System Information Block type 11	The UE is in idle mode and camped onto cell 1. The System Information Block type 11 messages to be transmitted are different from the default settings and the SS has configured its downlink transmission power setting according to columns "T0" in table 8.2.6.36.
2		←→	SS executes procedure P6 (clause 7.4.2.2.2) specified in TS 34.108.	
3		←→	SS executes procedure P10 (clause 7.4.2.4.2) specified in TS 34.108.	
4		←→	SS executes procedure P14 (clause 7.4.2.6.2) specified in TS 34.108.	
5				The SS switches its downlink transmission power settings to columns "T1" in table 8.2.6.36.
6		←	PHYSICAL CHANNEL RECONFIGURATION	Including IE "Frequency info" set to frequency information of cell 6 and no IE "Primary CPICH info" set to Primary Scrambling Code
7		→	CELL UPDATE	The IE "Cell update cause" is set to "cell reselection".
8		←	CELL UPDATE CONFIRM	Including the IE" New C-RNTI"
9		→	UTRAN MOBILITY INFORMATION CONFIRM	
10		→	PHYSICAL CHANNEL RECONFIGURATION	The UE sends this message on a common physical channel in cell 6.
11		←→	CALL C.2	If the test result of C.2 indicates that UE is in CELL_FACH state, the test passes, otherwise it fails.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 6)

The contents PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical the message sub-type indicated by "Packet to CELL_FACH from CELL_FACH in PS" in Annex A, with the following exception:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd) Downlink information for each radio links	 Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6 Not present

CELL UPDATE (Step 7)

The contents of CELL UPDATE message are identical as "Contents of CELL UPDATE message" as found in [9] TS 34.108 clause 9 with the following exceptions:

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

CELL UPDATE CONFIRM (Step 8)

The contents of CELL UPDATE CONFIRM message are identical as "CELL UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9. with the following exceptions:

Information Element	Value/remark
New C-RNTI	0000 0000 0000 0001B

UTRAN MOBILITY UPDATE CONFIRM (Step 9)

The contents of UTRAN MOBILITY UPDATE CONFIRM message is identical as "UTRAN MOBILITY UPDATE CONFIRM message" as found in [9] TS 34.108 clause 9.

8.2.6.36.5 Test requirement

After step 6 the UE shall transmit a CELL UPDATE message on the CCCH in cell 6.

After step 8 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the DCCH using AM RLC in cell 6.

After step 9 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC in cell 6.

After step 10 the UE shall be in CELL_FACH state in cell 6.

3GPP TSG-T1S Meeting #16
Yokohama, Japan, 29th July – 2nd August 2002

T1-020561

3GPP TSG-T1S Meeting #24
Yokohama, Japan, 29th – 31st July 2002

T1S020451

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **300** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☐ Radio Access Network ☐ Core Network ☐

Title:	⌘	Minor corrections and editorial modifications in clause 11.2 PDP context modification procedure
Source:	⌘	NEC Australia
Work item code:	⌘	TEI
Date:	⌘	29/07/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	To align 'Conformance requirement' clause with 3G vocabulary in test cases 11.2.2.2 and 11.2.3.1.
Summary of change:	⌘	1. Added detail in 'Test procedure' in clauses 11.2.1.4 and 11.2.2.1.4. 2. Editorial modification in 11.2.2.2.2: MS replaced with UE. 3. Minor correction and editorial modification in clause 11.2.3.1.2: MS replaced with UE and network replaced with SS in 'Test purpose'. 4. Minor correction in clause 11.2.3.2.3.
Consequences if not approved:	⌘	

Clauses affected:	⌘	11.2 PDP context modification procedure
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Affects R99, Rel-4 and Rel-5

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
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 ftp://ftp.3gpp.org/specs/ 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>

11.2 PDP context modification procedure

11.2.1 Network initiated PDP context modification

11.2.1.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.2.1.2 Conformance requirement

1) Upon receipt of a MODIFY PDP CONTEXT REQUEST message

   - If the UE can accept the modification requested, the UE shall reply with the MODIFY PDP CONTEXT ACCEPT message.

   - If the UE is unable to accept the modification requested, the UE shall initiate the PDP context deactivation procedure for the NSAPI that has been indicated in the message MODIFY PDP CONTEXT REQUEST - the reject cause IE value of the DEACTIVATE PDP CONTEXT REQUEST message shall indicate "QoS not accepted".

2) The UE shall either accept the modification request or deactivate the PDP context, it shall not ignore the modification request.

Reference

3GPP TS 24.008 clauses 6.1.3.3 and 6.1.3.3.1.

11.2.1.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT REQUEST message from SS.

11.2.1.4 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
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of activating a PDP context

Test procedure

The requested QoS and Minimum QoS are set. A PDP context is activated by the user and accepted by the SS. A MODIFY PDP CONTEXT REQUEST message is then sent to the UE with a QoS that is acceptable to the UE (higher than or equal to the minimum QoS set in the UE). The UE shall send a MODIFY PDP CONTEXT ACCEPT message in return. A MODIFY PDP CONTEXT REQUEST message is then sent to the UE with a QoS that is not acceptable to the

UE (lower than the minimum QoS set in the UE). The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message in return.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate the PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request the modification of a PDP context, with QoS higher than or equal to the minimum QoS set in the UE
5	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept the PDP context modification
6	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request the modification of a PDP context, QoS lower than the minimum QoS set in the UE
7	→		DEACTIVATE PDP CONTEXT REQUEST	Initiate the PDP context deactivation. Cause set to 'QoS not acceptable'
8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.2.1.5 Test requirements

The UE shall:

- Accept PDP context modification initiated by the SS if QoS is higher than or equal to the minimum QoS set in the UE.
- Reject PDP context modification initiated by the SS if QoS is lower than the minimum QoS set in the UE.

11.2.2 UE initiated PDP context modification

11.2.2.1 UE initiated PDP Context Modification accepted by network

11.2.2.1.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.2.2.1.2 Conformance requirement

In order to initiate the procedure, the UE sends the MODIFY PDP CONTEXT REQUEST message to the network, enters the state PDP-MODIFY-PENDING and starts timer T3381. The message may contain the requested new QoS and/or the TFT and the requested LLC SAPI (used in GSM).

Upon receipt of the MODIFY PDP CONTEXT REQUEST message, the network may reply with the MODIFY PDP CONTEXT ACCEPT message in order to accept the context modification. The reply message may contain the negotiated QoS and the radio priority level based on the new QoS profile and the negotiated LLC SAPI, that shall be used in GSM by the logical link.

Upon receipt of the MODIFY PDP CONTEXT ACCEPT message, the UE shall stop the timer T3381. If the offered QoS parameters received from the network differs from the QoS requested by the UE, the UE shall either accept the negotiated QoS or initiate the PDP context deactivation procedure.

Reference

3GPP TS 24.008 clauses 6.1.3.3 and 6.1.3.3.2.

11.2.2.1.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT ACCEPT message from the network with

- Requested QoS;
- QoS higher than or equal to the minimum QoS set in the UE;
- QoS lower than the minimum QoS set in the UE.

11.2.2.1.4 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
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of activating a PDP context

Test procedure

The requested QoS and Minimum QoS are set. A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message with new QoS. The SS accepts the context modification and replies with the MODIFY PDP CONTEXT ACCEPT message with the QoS requested.

The UE initiates new PDP context modification with higher QoS. The SS is unable to provide requested QoS, so it repies by sending MODIFY PDP CONTEXT ACCEPT message with new QoS that is lower than requested but still acceptable to the UE (higher than or equal to the minimum QoS set in the UE).

The UE initiates new PDP context modification with new QoS. The SS is unable to provide requested QoS, so it replies by sending MODIFY PDP CONTEXT ACCEPT message with QoS that is not acceptable to the UE (lower than the minimum QoS set in the UE). The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message in return and SS shall respond with a DEACTIVATE PDP CONTEXT ACCEPT message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
5	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS requested
6	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
7	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS higher than the minimum QoS set in UE
8	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
9	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS lower than the minimum QoS set in UE
10	→		DEACTIVATE PDP CONTEXT REQUEST	Initiate the PDP context deactivation. Cause set to 'QoS not acceptable'
11	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.2.2.1.5 Test requirements

When requesting the PDP context modification, the UE shall:

- Modify the PDP context if SS replied with the requested QoS;
- Modify the PDP context if SS replied with the acceptable QoS;
- Deactivate the PDP context if SS replied with the QoS not acceptable to UE.

11.2.2.2 UE initiated PDP Context Modification not accepted by the network

11.2.2.2.1 Definition

11.2.2.2.2 Conformance requirement

In order to initiate the procedure, the ~~MS~~ UE sends the MODIFY PDP CONTEXT REQUEST message to the network, enters the state PDP-MODIFY-PENDING and starts timer T3381. The message may contain the requested new QoS and/or the TFT and the requested LLC SAPI (used in GSM).

Upon receipt of a MODIFY PDP CONTEXT REQUEST message, the network may reject the ~~MS~~ UE initiated PDP context modification request by sending a MODIFY PDP CONTEXT REJECT message to the ~~MS~~UE. The message shall contain a cause code that typically indicates one of the following:

26: insufficient resources;

32: Service option not supported;

41: semantic error in the TFT operation;

42: syntactical error in the TFT operation;

44: semantic errors in packet filter(s);

45: syntactical errors in packet filter(s);

95 - 111: protocol errors.

Upon receipt of a MODIFY PDP CONTEXT REJECT message, the ~~MS~~ UE shall stop timer T3381 and enter the state PDP-ACTIVE.

Reference

3GPP TS 24.008 clauses 6.1.3.3, 6.1.3.3.2 and 6.1.3.3.3.

11.2.2.2.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT REJECT message from the network.

11.2.2.2.4 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
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message. The SS rejects the context modification and replies with the MODIFY PDP CONTEXT REJECT with cause set to # 26: insufficient resources.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context
5	←		MODIFY PDP CONTEXT REJECT	SS rejects PDP context modification
6	SS			Wait for T3381 seconds to ensure no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages are sent by the UE

Specific message contents

None.

11.2.2.2.5 Test requirements

After receiving MODIFY PDP CONTEXT REJECT message from the netwok, UE shall not resend PDP context modification request.

11.2.3 Abnormal cases

11.2.3.1 T3381 Expiry

11.2.3.1.1 Definition

11.2.3.1.2 Conformance requirement

On the first expiry of timer T3381, the UE shall re-send the MODIFY PDP CONTEXT REQUEST message, reset and restart timer T3381. This retransmission is repeated four times, i.e. on the fifth expiry of timer T3381, the ~~MS~~ UE may ~~UE~~ continue to use the previously negotiated QoS or it may initiate the PDP context deactivation procedure.

Reference

3GPP TS 24.008 clause 6.1.3.3.4 a) case: In the UE.

Test purpose

To test the behaviour of the UE when ~~network~~ SS does not reply to MODIFY PDP CONTEXT REQUEST message.

11.2.3.1.4 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
- Method of activating a PDP context

Test procedure

A PDP context activation is requested by the user and accepted by the SS. The UE shall send MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) message five times with T3381 seconds between each message. After this no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
5	SS			T3381 seconds
6	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
7	SS			T3381 seconds
8	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
9	SS			T3381 seconds
10	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
11	SS			T3381 seconds
12	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
13	SS			Wait for T3381 seconds to ensure no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages are sent by the UE

Specific message contents

None.

11.1.4.3.1.5 Test requirements

UE shall re-send the MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) to SS five times in order to initiate the PDP context modification, with expiry of timer T3381 between messages. After fifth try, UE shall send no more MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages to SS.

11.2.3.2 Collision of UE and network initiated PDP context modification procedures

11.2.3.2.1 Definition

11.2.3.2.2 Conformance requirement

A collision of a UE and network initiated PDP context modification procedures is identified by the UE if a MODIFY PDP CONTEXT REQUEST message is received from the network after the UE has sent a MODIFY PDP CONTEXT REQUEST message itself, and both messages contain the same TI and the UE has not yet received a MODIFY PDP CONTEXT ACCEPT message from the network.

In the case of such a collision, the network initiated PDP context modification shall take precedence over the UE initiated PDP context modification. The UE shall terminate internally the UE initiated PDP context modification procedure, enter the state PDP-ACTIVE and proceed with the network initiated PDP context modification procedure by sending a MODIFY PDP CONTEXT ACCEPT message.

Reference

3GPP TS 24.008 clause 6.1.3.3.4 b).

11.2.3.2.3 Test purpose

To test behaviour of the UE when it identifies collision of the UE and ~~network~~ SS initiated PDP context modification with the same TI.

11.2.3.2.4 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.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message. Then the SS initiates the PDP context modification by sending MODIFY PDP CONTEXT REQUEST message with the same TI. The UE shall reply to the SS initiated PDP context modification procedure by sending MODIFY PDP CONTEXT ACCEPT message with the same TI.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context
5	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request modification of the PDP context with the same TI
6	UE			UE identifies collision, terminates internally the UE initiated PDP context modification procedure
7	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept SS initiated PDP context modification

Specific message contents

Steps 4 and 5 - The TI IE value is the same, with TI flag set to "0" identifying both, the UE and the network, as transaction initiator. TI flag indicates to the UE that it is attempting to allocate the same TI value simultaneously with the SS.

Step 7 - The TI flag set to "1" indicating that the message belongs to the transaction initiated by the other side, in this case SS.

Steps 4, 5 and 7 - Bit7, Bit6 and Bit5 of the TI IE are the same.

11.2.3.2.5 Test requirements

In step 6, the UE shall terminate internally the UE initiated PDP context modification procedure and proceed with SS initiated PDP context modification.

<End of modified section>

3GPP TSG-T1S Meeting #16
Yokohama, Japan, 29th July – 2nd August 2002

T1-020563

3GPP TSG-T1S Meeting #24
Yokohama, Japan, 29th – 31st July 2002

T1S020453

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **301** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☐ Radio Access Network ☐ Core Network ☐

Title:	⌘	Addition of ICS/IXIT statement in Secondary PDP context activation procedures
Source:	⌘	NEC Australia
Work item code:	⌘	TEI
Date:	⌘	29/07/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	To correct an error in Method of test
Summary of change:	⌘	Added ICS/IXIT statement: - Secondary PDP context activation supported yes/no
Consequences if not approved:	⌘	A correctly implemented UE may not pass the test case.

Clauses affected:	⌘	11.1.4.1.1.4, 11.1.4.1.2.1.4, 11.1.4.1.2.2.4, 11.1.4.1.2.3.4, 11.1.4.2.4, 11.1.4.3.1.4.		
Other specs affected:	⌘	☐ Other core specifications ☒ Test specifications ☐ O&M Specifications	⌘	34.123-3
Other comments:	⌘	Affects R99, Rel-4 and Rel-5		

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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>

11.1.4 Secondary PDP context activation procedures

11.1.4.1 Successful Secondary PDP Context Activation Procedure Initiated by the UE

11.1.4.1.1 QoS Offered by Network is the QoS Requested

11.1.4.1.1.1 Definition

11.1.4.1.1.2 Conformance requirement

In order to request a secondary PDP context activation with the same PDP address and APN as an already active PDP context, the UE shall send an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network, enter the state PDP-ACTIVE-PENDING and start timer T3380. The message contains the selected NSAPI, a QoS profile, a requested LLC SAPI and the linked TI.

If the QoS offered by the network is the same as the QoS requested by the UE, then upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT, the UE shall stop timer T3380.

In GSM the UE 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.

Although not used in UMTS, LLC SAPI shall be included in the messages, in order to support handover between UMTS and GSM networks.

Reference

3GPP TS 24.008 clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.1.3 Test purpose

To test the behaviour of the UE when SS responds to a Secondary PDP context activation request with the requested QoS.

11.1.4.1.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE and is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of context activation
- Secondary PDP context activation supported yes/no

Test procedure

A PDP context activation is requested by the user and accepted by the SS. Secondary PDP context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT is returned by the SS with the same requested QoS. The SS then waits for T3380 seconds to ensure T3380 has been stopped and no more ACTIVATE SECONDARY PDP CONREXT 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

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept the Secondary PDP context activation
7	SS			Wait for T3380 seconds to ensure no further activate request messages come from the UE
8	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	SS sends a modify request to UE for the activated context
9	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	UE accepts the modification request from the network to show context is activated

Specific message contents

The Linked TI information element in ACTIVATE SECONDARY PDP CONTEXT REQUEST message specifies the TI for the PDP context already activated. The SS can derive PDP address for the secondary PDP context from Linked TI.

11.1.4.1.1.5 Test requirements

To pass the test the UE shall:

- when the SS responds to a Secondary PDP context activation request initiated by the UE, with the requested QoS, the UE shall complete the Secondary PDP context activation procedure. To check if the Secondary PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.4.1.2 QoS Offered by Network is a lower QoS

11.1.4.1.2.1 QoS accepted by UE

11.1.4.1.2.1.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.1.4.1.2.1.2 Conformance requirement

In order to request a Secondary PDP context activation with the same PDP address and APN as an already active PDP context, the UE shall send an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network, enter

the state PDP-ACTIVE-PENDING and start timer T3380. If the QoS offered by the network is acceptable to UE, then upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT the UE shall stop timer T3380.

In GSM the UE 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.

Reference

3GPP TS 24.008 clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.2.1.3 Test purpose

To test the behaviour of the UE when the SS responds to a Secondary PDP context activation request with a lower QoS than that requested.

11.1.4.1.2.1.4 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
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of context activation
- Secondary PDP context activation supported yes/no

Test procedure

The requested QoS and Minimum QoS are set. A PDP context activation is requested by the user and accepted by the SS. Secondary context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT is returned by the SS with a QoS lower than the requested but higher than or equal to the minimum. The SS then sends a MODIFY PDP CONTEXT REQUEST message and the UE shall respond with a MODIFY PDP CONTEXT ACCEPT message to confirm the context is active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept a Secondary PDP context activation
7	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Send a modify request to UE for the activated context
8	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept the modification request from network to show context is activated

Specific message contents

None.

11.1.4.1.2.1.5 Test requirements

To pass the test when the SS responds to a Secondary PDP context activation request, initiated by the UE, with the QoS lower than the requested but higher than or equal to the minimum, the UE shall complete the Secondary PDP context activation procedure. To see if the PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.4.1.2.2 QoS rejected by UE

11.1.4.1.2.2.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.1.4.1.2.2.2 Conformance requirement

In order to request a Secondary PDP context activation with the same PDP address and APN as an already active PDP context, the UE shall send an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network.

Upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT offering a QoS which is not acceptable to the UE, the UE shall initiate the PDP context deactivation procedure.

Reference

3GPP TS 24.008 clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.2.2.3 Test purpose

To test the behaviour of the UE when the QoS, offered by SS in response to a Secondary PDP context activation request is not acceptable to the UE.

11.1.4.1.2.2.4 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
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of context activation
- Secondary PDP context activation supported yes/no

Test procedure

The requested QoS and Minimum QoS are set. PDP context activation is requested by the user and accepted by the SS. Secondary PDP context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT message is returned by the SS with the QoS lower than the minimum. The UE shall then send a DEACTIVATE PDP CONTEXT REQUEST message for the secondary PDP context. A DEACTIVATE PDP CONTEXT ACCEPT message will be sent in return by the SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept the Secondary PDP context activation with QoS lower than Minimum QoS
7	→		DEACTIVATE PDP CONTEXT REQUEST	Request deactivation of the secondary PDP context
8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

In step 3 *Negotiated QoS* IE is equal to *Requested QoS* IE in step 2 and step 5.

In step 7 SM cause IE shall have value #37: QoS not accepted.

Tear down indicator IE shall not be included in the DEACTIVATE PDP CONTEXT REQUEST message because only the PDP context for this specific TI shall be deactivated.

11.1.4.1.2.2.5 Test requirements

The UE shall reject the QoS offered by the SS in response to a Secondary PDP context activation request, if the QoS is not acceptable to the UE.

11.1.4.1.2.3 LLC SAPI rejected by the UE

11.1.4.1.2.3.1 Definition

This test can only be performed if LLC SAPI can be set by the user.

11.1.4.1.2.3.2 Conformance Requirement

In order to request a PDP context activation with the same PDP address and APN as an already active PDP context, the UE shall send an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network.

Upon receipt of an ACTIVATE SECONDARY PDP CONTEXT REQUEST, the network shall select a radio priority level based on the QoS negotiated and shall reply with an ACTIVATE SECONDARY PDP CONTEXT ACCEPT message, if the request can be accepted.

Upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT, the UE shall stop timer T3380 and enter the state PDP-ACTIVE.

In GSM the UE shall initiate establishment of the logical link for the LLC SAPI indicated by the network if no logical link has been already established for that SAPI. If the LLC SAPI indicated by the network can not be supported by the UE, the UE shall initiate the PDP context deactivation procedure.

11.1.4.1.2.3.3 Test Purpose

To verify the behaviour of the UE when the network responds to the ACTIVATE SECONDARY PDP CONTEXT REQUEST message with a negotiated LLC SAPI which is not supported by the UE.

Reference

3GPP TS 24.008, clause 6.1.3.2.1.

11.1.4.1.2.3.4 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
- User setting of LLC SAPI supported yes/no
- Method of setting LLC SAPI
- Method of context activation

- Secondary PDP context activation supported yes/no

Test procedure

The requested LLC SAPI is set. This is the only LLC SAPI supported by the UE. A PDP context activation is requested by the user and accepted by the SS. A secondary PDP context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT message is returned by the SS with the LLC SAPI not supported by the UE. The UE shall then send a DEACTIVATE PDP CONTEXT REQUEST message for the secondary PDP context. A DEACTIVATE PDP CONTEXT ACCEPT message will be sent in return by the SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept the Secondary PDP context activation with LLC SAPI not supported by the UE
7	→		DEACTIVATE PDP CONTEXT REQUEST	Request deactivation of all PDP contexts
8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

In step 3 *Negotiated LLC SAPI* IE is equal to *Requested LLC SAPI* IE in step 2 and step 5.

In step 7 SM cause IE shall have value #25: LLC or SNDCP failure. Also, *Tear down indicator* IE shall be included in the DEACTIVATE PDP CONTEXT REQUEST message to deactivate all PDP contexts for this PDP address.

11.1.4.2 Unsuccessful Secondary PDP Context Activation Procedure Initiated by the UE

11.1.4.2.1 Definition

11.1.4.2.2 Conformance requirement

Upon receipt of an ACTIVATE SECONDARY PDP CONTEXT REQUEST message, the network may reject the UE initiated PDP context activation by sending an ACTIVATE SECONDARY PDP CONTEXT REJECT message to the UE. Upon receipt of an ACTIVATE SECONDARY PDP CONTEXT REJECT message, the UE shall stop timer T3380 and enter the state PDP-INACTIVE.

Reference

3GPP TS 24.008 clauses 6.1.3.2 and 6.1.3.2.2.

11.1.4.2.3 Test purpose

To test the behaviour of the UE when network rejects the UE initiated Secondary PDP context activation.

11.1.4.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE and is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of context activation
- Secondary PDP context activation supported yes/no

Test procedure

A PDP context activation is requested by the user and accepted by the SS. Secondary context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message from the UE, an ACTIVATE SECONDARY PDP CONTEXT REJECT with cause #43 'unknown PDP context' is returned by the SS. SS shall wait for T3380 seconds to ensure that the UE sends no more ACTIVATE SECONDARY PDP CONTEXT REQUEST messages.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT REJECT	SS rejects the Secondary PDP context activation with cause '#43: unknown PDP context'
7		SS		Wait for T3380 seconds to ensure no further activate request messages come from the UE

Specific message contents

Step 5. The *Linked TI* information element specifies the TI which is different from the TI in the PDP context activated in steps 1-3.

11.1.4.2.5 Test requirements

After a secondary PDP context activation being rejected by the network, the UE shall not re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

11.1.4.3 Abnormal cases

11.1.4.3.1 T3380 Expiry

11.1.4.3.1.1 Definition

11.1.4.3.1.2 Conformance requirement

1) On the first expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST.
2) On the second expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST.
3) On the third expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST.
4) On the fourth expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST.
5) On the fifth expiry of the timer T3380, the UE shall release all resources possibly allocated for this invocation and shall abort the procedure; no automatic secondary PDP context activation re-attempt shall be performed.

Reference

3GPP TS 24.008 clause 6.1.3.2.3 a).

11.1.4.3.1.3 Test purpose

To test the behaviour of the UE when the SS does not reply to ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

11.1.4.3.1.4 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
- —Method of activating a context
- Secondary PDP context activation supported yes/no

Test procedure

A PDP context is activated by the user and accepted by the SS. Secondary PDP context activation is requested by the user. The UE shall send ACTIVATE SECONDARY PDP CONTEXT REQUEST message five times with T3380 seconds between each message. After this, no further ACTIVATE SECONDARY PDP CONTEXT REQUEST messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6		SS		T3380 seconds
7	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request the Secondary PDP context activation
8		SS		T3380 seconds
9	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request the Secondary PDP context activation
10		SS		T3380 seconds
11	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request the Secondary PDP context activation
12		SS		T3380 seconds
13	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request the Secondary PDP context activation
14		SS		Wait for T3380 seconds to ensure no further ACTIVATE SECONDARY PDP CONTEXT REQUEST messages are sent by the UE

Specific message contents

None.

<End of modified section>

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3GPP TSG-T1S Meeting #24
Yokohama, Japan, 29th – 31st July 2002

T1S020472

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **302** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☐ Radio Access Network ☐ Core Network ☐

Title:	⌘	Editorial corrections in test case 11.2.3.1.
Source:	⌘	NEC Australia
Work item code:	⌘	TEI
Date:	⌘	29/07/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Incorrect sub-clause numbering.
Summary of change:	⌘	Replaced MS with UE. Added sub-clause number to 'Test purpose' and corrected number of 'Test requirement' sub-clause.
Consequences if not approved:	⌘	No serious consequences.

Clauses affected:	⌘	11.2.3.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Affects R99, Rel-4 and Rel-5

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. 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 ftp://ftp.3gpp.org/specs/ 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>

11.2.3 Abnormal cases

11.2.3.1 T3381 Expiry

11.2.3.1.1 Definition

11.2.3.1.2 Conformance requirement

On the first expiry of timer T3381, the UE shall re-send the MODIFY PDP CONTEXT REQUEST message, reset and restart timer T3381. This retransmission is repeated four times, i.e. on the fifth expiry of timer T3381, the UE~~MS~~ may ~~UE~~ continue to use the previously negotiated QoS or it may initiate the PDP context deactivation procedure.

Reference

3GPP TS 24.008 clause 6.1.3.3.4 a) case: In the UE.

11.2.3.1.3 Test purpose

To test the behaviour of the UE when network does not reply to MODIFY PDP CONTEXT REQUEST message.

11.2.3.1.4 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
- Method of activating a PDP context

Test procedure

A PDP context activation is requested by the user and accepted by the SS. The UE shall send MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) message five times with T3381 seconds between each message. After this no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
5		SS		T3381 seconds
6	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
7		SS		T3381 seconds
8	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
9		SS		T3381 seconds
10	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
11		SS		T3381 seconds
12	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
13		SS		Wait for T3381 seconds to ensure no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages are sent by the UE

Specific message contents

None.

11.2.3.1.5~~11.1.4.3.1.5~~ Test requirements

UE shall re-send the MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) to SS five times in order to initiate the PDP context modification, with expiry of timer T3381 between messages. After fifth try, UE shall send no more MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages to SS.

<End of modified section>

3GPP TSG-T1S Meeting #16
Yokohama, Japan, 29th July – 2nd August 2002

T1-020565

3GPP TSG-T1S Meeting #24
Yokohama, Japan, 29th – 31st July 2002

T1S020473

CR-Form-v5.1

CHANGE REQUEST

⌘ **34.123-1** **CR** **303** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*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 ☐ Radio Access Network ☐ Core Network ☐

Title:	⌘	Test case 11.1.2: Correction in 'Test procedure'
Source:	⌘	NEC Australia
Work item code:	⌘	TEI
Date:	⌘	29/07/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ Incorrect number of PDP contexts supported by UE.

Summary of change: ⌘ Maximun number of PDP contexts supported by the UE set to 7.

Assumption that UE can support 256 PDP contexts (based on extended TI mechanism) was incorrect since due to following:

- Each PDP context have a RAB assiciated with unique RAB ID and unique RB ID.
- RAB ID maps to NSAPI.
- NSAPI is of type BIT STRING size 4, so it can go up to 2^4=16. Actually, values 0-4 are reserved and only NSAPI 5 to NSAPI 15 can be used, which leaves only 11 possible values for NSAPI.
- Also RB ID can go maximum to 32

Team implementing the test case proposes, based on 34-123-3 default RAB configuration (64kbps) for the test case, to set this value to 8.

In GSM conformance specification 51.010-1, this value is set to 7.

NEC is proposing to allign 3G conformance test spec with GERAN spec for the time being, and liasie this with CN1 later, since this test case is in low priority group.

Consequences if not approved: ⌘ A correctly implemented UE may not pass the test case.

Clauses affected:	⌘	11.1.2		
Other specs affected:	⌘	☐ Other core specifications ☒ Test specifications ☐ O&M Specifications	⌘	34.123-3
Other comments:	⌘	Affects R99, Rel-4 and Rel-5		

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 ftp://ftp.3gpp.org/specs/ 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>

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 the UE cannot support seven PDP contexts then one greater than the maximum supported by the UE should be requested. ~~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	Direction		Message	Comments
	UE	SS		
1	←		REQUEST PDP CONTEXT ACTIVATION	SS sends Request a PDP context activation to UE
2	→		ACTIVATE PDP CONTEXT REQUEST	UE replies with a Request PDP context activation
3	←		ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation
4	SS			Steps 1-3 are repeated for the number of Network Initiated contexts supported. NOTE: If all ~~256~~ 7 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', 'activation rejected, unspecified' or 'protocol errors' using cause values #26, #31, #40 or #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	→		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
2	→		REQUEST PDP CONTEXT ACTIVATION REJECT	Reject the PDP context activation request with cause 'insufficient resources' or '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.

<End of modified section>

3GPP TSG-T1 Meeting #16 ***T1S-020567***
Yokohama, Japan, 01st August 2002
3GPP TSG-T1 SIG Meeting #24 ***T1S-020534***
Yokohama, Japan, 29th-31st July 2002

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **305** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Corrections to SMS test cases in clause 16.
Source:	⌘	DENSO
Work item code:	⌘	TEI
Date:	⌘	22/07/2002
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	To correct SMS test specs about the followings, 1.Corrections of release procedure about MT/MO sequences on CS mode 2.Deletion of SERVICE REQUEST when SM PDP context is active 3.Correction of Conformance requirements of CBS 4.Editorial modification
Summary of change:	⌘	1.Corrections of release procedure about MT/MO sequences on CS mode Expected Sequences are updated (16.1.1 16.1.2). 2.Deletion of SERVICE REQUEST when SM PDP context is active Test procedure, Expected Sequences and Test requirements are updated (16.2.2). 3.Correction of Conformance requirements of CBS Conformance requirements are updated (16.3.2). 4.Editorial modification(16.1.1, 16.1.2, 16.1.3, 16.1.5.3 16.2.3, 16.2.5.3) 5. Corrected “SS initiates channel release” to “ UE initiates channel release”. 6. test case 16.3, in the Test procedure the 2nd step “ The UE shall respond to the page.” is deleted. 7. Updated Test purpose to “ This test verifies that an UE supporting SMS-CB is able to receive SMS-CB messages and is able to ignore repeated broadcasts of CBS messages.”
Consequences if not approved:	⌘	The test prose cannot test UE correctly.

Clauses affected:	⌘	16.1.1, 16.1.2, 16.1.3, 16.1.5.3, 16.2.2, 16.2.3, 16.2.5.3, 16.3.2

		Y	N			
Other specs affected:	⌘			Other core specifications	⌘	
				Test specifications		
				O&M Specifications		
Other comments:	⌘	Affects R99, Rel-4, Rel-5				

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 ftp://ftp.3gpp.org/specs/ 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.

16 Short message service (SMS)

Ref.: 3GPP TS 23.040, 3GPP TS 24.011 (point to point)
3GPP TS 23.041, (cell broadcast)

General

The purpose of these tests is to verify that the UE can handle Iu mode system functions when submitting or receiving Short Messages (SM) between UE and a short message service centre as described in 3GPP TS 23.040.

The procedures are based upon services provided by the Mobility Management (MM) sublayer and GPRS Mobility Managemant(GMM) sublayer which are not tested in this case.

The SMS comprises three basic services; SMS point to point services on CS mode, on PS mode and SMS cell broadcast service. The SMS point to point services on CS mode shall work in an active UE at any time independent of whether or not there is a speech or data call in progress. The SMS point to point services on PS mode shall work in an active UE at any time independent of whether or not there is a PDP context in progress. The SMS cell broadcast service only works when the UE is in idle mode.

Since the timer TC1M currently is not standardized, the value of TC1M shall be declared by the manufacturer (to be used in clauses 16.1.1 and 16.1.2).

The manufacturer shall declare whether SMS messages are stored in the USIM and/or the ME. This shall be referred to as the SMS message store in the following tests.

Unless otherwise stated default message contents from 3GPP TS 34.108 applies for following tests.

16.1 Short message service point to point on CS mode

All of test cases in this clause are applied to UE supporting CS mode.

16.1.1 SMS mobile terminated

16.1.1.1 Definition

16.1.1.2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-DELIVER) at any time, independently of whether or not there is a speech or data call in progress. A report will always be returned to the SC, confirming that the UE has received the short message.

Reference

3GPP TS 23.040, clause 3.1.

16.1.1.3 Test purpose

To verify the ability of a UE to receive and decode the SMS where provided for the point to point service.

16.1.1.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.

- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Support for call control state U10.

Test procedure

a) Mobile terminates establishment of Radio Resource Connection. After the completion of RRC Connection SS authenticates UE.

After the SS receives SECURITY MODE COMPLETE, the SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU).

b) The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

c) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release.

d) Steps a), b) and c) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

e) Steps a) and b) are repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 s after the last CP-DATA retransmission the SS then initiates the channel release. The 5 s is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions.

f) The SMS message store shall be cleared manually by the operator.

g) A data or speech call is established on a DTCH with the SS and the state U10 of call control is entered.

The SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU). The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

h) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release. The SMS message store shall be cleared manually by the operator.

i) Steps g) and h) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

j) Step g) is repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 s after the last CP-DATA retransmission the SS initiates the channel release. The 15 s is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions (during a call in progress).

k) A data or speech call is established on a DTCH with the SS and the state U10 of call control shall be entered. The speech call is cleared by the SS with a disconnect message. (The call clearing is continued on the DCCH in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA RPDU (SMS DELIVER TPDU) message. The information element of the CP-DATA message is RP-DATA.

The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

l) A data or speech call is established with the SS and the state U10 of call control is entered. The speech call shall be cleared from the UE. (The call clearing is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA message. The information element of the CP-DATA message is RP-DATA RPDU (SMS DELIVER TPDU).

The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release.

The SMS message store shall be cleared manually by the operator.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS 34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
8	SS			Waits max 25 s for CP-ACK
9	-->		CP-ACK	
10	SS			Waits max 60 s for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	
13	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection .
14	UE			The UE shall indicate that an SM has arrived.
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS 34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
22	SS			Waits max 25 s for CP-ACK
23	-->		CP-ACK	
24	SS			Waits max 60 s for RP-ACK RPDU
25	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
26	SS			First CP-DATA message not acknowledged by SS
27	-->		CP-DATA	Retransmitted CP-DATA from UE within twice TC1M, after step 25, contains RP-ACK RPDU
28	<--		CP-ACK	Second CP_DATA message is acknowledged

Step	Direction		Message	Comments
	UE	SS		
29	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
30	UE			The UE shall indicate that an SM has arrived.
31			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS 34.108
32	-->		PAGING RESPONSE	
33	<--		AUTHENTICATION REQUEST	
34	-->		AUTHENTICATION RESPONSE	
35	<--		SECURITY MODE COMMAND	
36	-->		SECURITY MODE COMPLETE	
37	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
38	SS			Waits max 25 s for CP-ACK
39	-->		CP-ACK	
40	SS			Waits max 60 s for RP-ACK RPDU
41	-->		CP-DATA	Contains RP-ACK RPDU
42	SS			First CP-DATA message not acknowledged by SS
43			CP-DATA	Retransmitted CP-DATA from UE within twice TC1M after step 41, contains RP-ACK RPDU
44	SS			Retransmitted CP-DATA message not acknowledged by SS
45	UE			Depending upon the maximum number of CP-DATA retransmissions implemented, step 43 and 44 may be repeated.
46	<--		RRC CONNECTION RELEASE	RRC connection is released after a duration of TC1M + 5 s after the last CP-DATA retransmission.
47	-->		RRC CONNECTION RELEASE COMPLETE	
48	UE			The UE shall indicate that an SM has arrived.
49	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
50			(void)	
51	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
52	SS			Waits max 25 s for CP-ACK
53	-->		CP-ACK	
54	SS			Waits max 60 s for RP-ACK RPDU
55	-->		CP-DATA	Contains RP-ACK RPDU
56	<--		CP-ACK	
57	<--		DISCONNECT	Disconnect the active call
58	-->		RELEASE	
58a	<--		RELEASE COMPLETE	
58b	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
59	UE			The UE shall indicate that an SM has arrived.
60	UE			Clear the SMS message store
61	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
62	<--		(void)	
63	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
64	SS			Waits max 25 s for CP-ACK
65	-->		CP-ACK	
66	SS			Waits max 60 s for RP-ACK RPDU
67	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
68	SS			First CP-DATA message not acknowledged by SS
69	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 67, contains RP-ACK RPDU
70	<--		CP-ACK	Second CP-DATA message is acknowledged
71	<--		DISCONNECT	Disconnect the active call
72	-->		RELEASE	
73	<--		RELEASE COMPLETE	
74	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
75	UE			The UE shall indicate that an SM has arrived.
76	UE			Clear the SMS message store
77	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
78			(void)	

Step	Direction		Message	Comments
	UE	SS		
79		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
80		SS		Waits max 25 s for CP-ACK
81		-->	CP-ACK	
82		SS		Waits max 60 s for RP-ACK RPDU
83		-->	CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
84		SS		First CP-DATA message not acknowledged by SS
85		-->	CP-DATA	Transmitted CP-DATA message within twice TC1M after step 83, contains RP-ACK RPDU
86		SS		Retransmitted CP-DATA message not acknowledged by SS
87	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 85-86 may be repeated. The maximum number of retransmissions may however not exceed three.
87a		<u>←</u>	<u>DISCONNECT</u>	<u>Disconnect the active call</u>
87b		<u>→</u>	<u>RELEASE</u>	
87c		<u>←</u>	<u>RELEASE COMPLETE</u>	
88		~~<--~~	~~RRC CONNECTION RELEASE~~(void)	~~RRC CONNECTION is released after a duration of TC1M + 15 s after the last CP-DATA retransmission.~~
89	<u>UE~~-->~~</u>		~~RRC CONNECTION RELEASE COMPLETE~~	<u>UE aborts the RRC connection</u>
90	UE			The UE shall indicate that an SM has arrived.
91	UE			Clear the SMS message store
92	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
93			(void)	
94		<--	DISCONNECT	The speech call is cleared by the SS. The call clearing is continued in parallel to the following exchange of messages related to SMS.
95		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
96		SS		Waits max 25 s for CP-ACK
97		-->	CP-ACK	
98		SS		Waits max 60 s for RP-ACK RPDU
99		-->	CP-DATA	Contains RP-ACK RPDU
100		<--	CP-ACK	
101	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
102	UE			The UE shall indicate that an SM has arrived.
103	UE			Clear the SMS message store
104	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
105			(void)	
106		-->	DISCONNECT	The speech call is cleared from the UE. The call clearing is continued in parallel to the following exchange of messages related to SMS.
107		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
108		<--	RELEASE	This message is likely to be sent before all of the CP-DATA message has been sent on the DCCH.
109		-->	RELEASE COMPLETE	
110		-->	CP-ACK	shall be sent before 25 s after the start of step 107
111		SS		Waits max 60 s for RP-ACK RPDU
112		-->	CP-DATA	Contains RP-ACK RPDU
113		<--	CP-ACK	
114	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
115	UE			The UE shall indicate that an SM has arrived.
116	UE			Clear the SMS message store

NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS DELIVER TPDU

Information element	Comment Value
TP-UDL TP-UD (140 octets)	160 text of message (160 characters)
NOTE: The 160 characters in TP-UD shall include at least one occurrence of each character in the default alphabet (see 3GPP TS 23.038, clause 6.2.1).	

16.1.1.5 Test requirements

After step 7 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 25 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 30 UE shall indicate that an SM has arrived.

After step 43 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 48 UE shall indicate that an SM has arrived.

After step 51 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 67 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 74 UE shall indicate that an SM has arrived.

After step 79 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 90 UE shall indicate that an SM has arrived.

After step 95 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 107 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

16.1.2 SMS mobile originated

16.1.2.1 Definition

16.1.2.2 Conformance requirements

An active UE shall be able to submit short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is a speech or data call in progress.

Reference

3GPP TS 23.040 clause 3.1.

16.1.2.3 Test purpose

To verify that the UE is able to correctly send a short message where the SMS is provided for the point to point service.

16.1.2.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP.

Support for state U10 of call control.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The UE shall be set up to send a SM to the SS. The SS responds to RRC CONNECTION REQUEST by allocating a CCCH. The SS receives RRC CONNECTION SETUP COMPLETE on DCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message.

d) The SS sends a channel release message to the UE.

e) Steps a) and b) are repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 s after the last CP-DATA retransmission the UE~~SS~~ initiates channel release. The 5 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions.

f) Steps a) and b) are repeated. On receipt of the CP-DATA from the UE the SS sends a CP-ERROR message within TC1M containing a "Network Failure" cause. Then the SS initiates channel release.

g) A data or speech call is established with the SS and the state U10 of call control is entered. The UE is set up to send an SM to the SS. After the reception of the CM SERVICE REQUEST, the SS sends a CM SERVICE ACCEPT message.

h) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message. Then the SS sends a channel release message to the UE.

i) Step g) is repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 s after the last CP-DATA retransmission the SS initiates channel release. The 15 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions (during a call in progress).

j) (void)

k) The UE is set up to send an SM to the SS. On receipt of the CM SERVICE REQUEST the SS sends a CM SERVICE REJECT message with the reject cause set to "Service Option not supported" or "Service Option temporarily out of order". After 5 s the SS initiates channel release.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		CM SERVICE REQUEST	
6	<--		AUTHENTICATION REQUEST	
7	-->		AUTHENTICATION RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13	SS			Waits max 25 s for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17	<--		SYSTEM INFORMATION	BCCH
18	-->		RRC CONNECTION REQUEST	CCCH
19	<--		RRC CONNECTION SETUP	CCCH
20	-->		RRC CONNECTION SETUP COMPLETE	DCCH
21			(void)	
22	-->		CM SERVICE REQUEST	
23	<--		AUTHENTICATION REQUEST	
24	-->		AUTHENTICATION RESPONSE	
25	<--		SECURITY MODE COMMAND	
26	-->		SECURITY MODE COMPLETE	
27	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
28	SS			SS configured not to send CP-ACK
29	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 27
30	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 29 may be repeated. The maximum number of retransmissions may however not exceed three.
30a	UE			The UE aborts the RRC connection
31	~~<--~~		~~RRC CONNECTION RELEASE~~(void)	~~RRC CONNECTION is released after a duration of TC1M + 5 s after the last CP-DATA retransmission.~~
32	~~-->~~		~~RRC CONNECTION RELEASE COMPLETE~~(void)	
33	<--		SYSTEM INFORMATION	BCCH
34	-->		RRC CONNECTION REQUEST	CCCH
35	<--		RRC CONNECTION SETUP	CCCH
36	-->		RRC CONNECTION SETUP COMPLETE	DCCH
37	-->		CM SERVICE REQUEST	
38	<--		AUTHENTICATION REQUEST	
39	-->		AUTHENTICATION RESPONSE	
40	<--		SECURITY MODE COMMAND	
41	-->		SECURITY MODE COMPLETE	
42	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
43	<--		CP-ERROR	Sent within TC1M containing "Network Failure" cause.
44	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
45	-->		RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
46		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
47		UE		The UE is set up to send an SM
48	-->		CM SERVICE REQUEST	CM service type set to "short message "
49	<--		CM SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
51	<--		CP-ACK	Sent within TC1M after step 50
52	<--		CP-DATA	Contains RP-ACK RPDU
53		SS		Waits max 25 s for CP-ACK
54	-->		CP-ACK	
55	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
56	-->		RRC CONNECTION RELEASE CONPLETE	
57		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
58	-->		CM SERVICE REQUEST	CM service type set to "short message "
59	<--		CM SERVICE ACCEPT	
60	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
61		SS		SS configured not to send CP-ACK
62	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 60
63		UE		Depending on the maximum number of CP-DATA retransmissions implemented, step 62 may be repeated. The maximum number of retransmissions may however not exceed three.
64	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1m + 15 s after the last CP-DATA retransmission.
65	-->		RRC CONNECTION RELEASE COMPLETE	
66-78			(void)	
79	-->		RRC CONNECTION REQUEST	
80	<--		RRC CONNECTION SETUP	
81	-->		RRC CONNECTION SETUP COMPLETE	
82	-->		CM SERVICE REQUEST	. CM service type set to "short message transfer"
83	<--		CM SERVICE REJ	Reject cause set to "Service Option not supported" or "Service Option temporarily out of order"
84			(void)	
85	<--		RRC CONNECTION RELEASE	Sent 5 s after CM SERVICE REJ
86	-->		RRC CONNECTION RELEASE COMPLETE	
NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-UDL	as applicable
TP-UD (140 octets max)	maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.1.2.5 Test requirements

After step 9 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 27 UE shall retransmit a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 44 UE shall send the RRC CONNECTION RELEASE COMPLETE.

After step 49 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 60 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 83 UE shall not send CP-DATA.

16.1.3 Test of memory full condition and memory available notification:

The Memory Available Notification provides a means for the UE to notify the network that it has memory available to receive one or more short messages. The SMS status field in the USIM contains status information on the "memory available" notification flag.

16.1.3.1 Definition

16.1.3.2 Conformance requirement

1. When a mobile terminated message is Class 2, the UE shall ensure that the message has been transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a protocol error message if the short message cannot be stored in the USIM and there is other short message storage available in the UE. If all the short message storage in the UE is already in use, the UE shall return "memory capability exceeded".

2. When the UE rejects a short message due to lack of available memory capability the need to transfer notification shall be stored in the USIM.

3. If the memory capability becomes available because memory is cleared, the value of the memory capability exceeded notification flag in the USIM is read. If the flag is set, the UE notifies the network that memory capability is now available. After a positive acknowledgement from the network, the ME unsets the memory capability exceeded notification flag in the USIM.

References

- 3GPP TS 23.040 clause 9.2.3.10, 3GPP TS 23.038 clause 4.

- 3GPP TS 23.040 clause 10.3 (operation 14).

- 3GPP TS 23.040 clause 10.3 (operation 14).

16.1.3.3 Test purpose

1. To verify that the UE sends the correct acknowledgement when its memory in the USIM becomes full.

2. To verify that the UE sends the correct acknowledgement when its memory in the ME and the USIM becomes full, and sets the "memory exceeded" notification flag in the USIM.

3. To verify that the UE performs the "memory available" procedure when its message store becomes available for receiving short messages, and only at this moment.

16.1.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty;
  - the UE shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least one record;

- $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
- Service no. 4<u>10</u> (SMS) in EF<u>ust</u>~~SST~~ set to allocated and activated.

- for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

The value of timer TC1M.

Test procedure

a) step a) of clause 16.1.5.3 (test of Class 2 Short Messages) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

b) a Class 1 Short Message is sent to the UE.

c) step b) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

d) a Short Message is sent to the UE with the DCS field of the SMS-DELIVER TPDU set to 0.

e) the SS prompts the operator to read a short message and to remove it from the message store of the UE.

f) the SS waits for a RRC CONNECTION REQUEST from the UE, and sends a RRC CONNECTION SETUP.

g) after the SS receives a RRC CONNECTION SETUP COMPLETE, the SS authenticates the UE and activates ciphering.

h) the SS answers to the RP-SMMA from the UE with a CP-DATA containing a RP-ACK RPDU.

i) after the UE has acknowledged the CP-DATA with a CP-ACK, the SS releases the RRC connection. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.

j) step e) is repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	SS			Waits max 25 s for CP-ACK
9	-->		CP-ACK	
10	SS			Waits max 60 s for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	Within TC1M after step 11

Step	Direction		Message	Comments
	UE	SS		
13	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 1-13 is repeated until UE sends a negative acknowledgement (RP-ERROR) in step ~~16~~11. The RP-ERROR RPDU cause field shall be "Protocol error, unspecified" if there is message capability in the ~~ME~~USIM, or "Memory capability exceeded" if there is no message capability in the ~~ME~~USIM. If the total memory store of the UE is full, the ME shall set the "memory capability exceeded" notification flag on the USIM.
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
22		SS		Waits max 25 s for CP-ACK
23	-->		CP-ACK	
24		SS		Waits max 60 s for RP-ACK RPDU
25	-->		CP-DATA	Shall contain RP-ACK RPDU if there is memory capability in the ME. If not it shall contain RP-ERROR RPDU which cause field shall be "memory capability exceeded". If the total memory store of the UE now becomes full at this step, the ME shall set the "memory cap. exceed" notification flag on the USIM.
26	<--		CP-ACK	Within TC1M after step 25
27	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 15-27 is repeated until the UE sends an RP-ERROR. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.
28	-->		RRC CONNECTION RELEASE COMPLETE	
29			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
30	-->		PAGING RESPONSE	
31	<--		AUTHENTICATION REQUEST	
32	-->		AUTHENTICATION RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) with TP-DCS set to 0
36		SS		Waits max 25 s for CP-ACK
37	-->		CP-ACK	
38		SS		Waits max 60 s for RP-ACK RPDU
39	-->		CP-DATA	Shall contain RP-ERROR RPDU with error cause "memory capability exceeded".
40	<--		CP-ACK	Within TC1M after step 39
41	<--		RRC CONNECTION RELEASE	RRC connection is released.
42	-->		RRC CONNECTION RELEASE COMPLETE	
43		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
44	<--		SYSTEM INFORMATION	BCCH
45	-->		RRC CONNECTION REQUEST	CCCH
46	<--		RRC CONNECTION SETUP	CCCH
47	-->		RRC CONNECTION SETUP COMPLETE	DCCH
48	-->		CM SERVICE REQUEST	CM service type information element is set to "Short message transfer".
49	<--		CM SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-SMMA RPDU

Step	Direction		Message	Comments
	UE	SS		
51	<--		CP-ACK	
52	<--		CP-DATA	Contains RP-ACK RPDU
53	-->		CP-ACK	Acknowledge of CP-DATA containing the RP-ACK RPDU. The ME shall unset the "memory capability exceeded" notification flag on the USIM.
54	<--		RRC CONNECTION RELEASE	RRC connection is released. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
57	UE			Shall not attempt to send a RP-SMMA RPDU. This is verified by checking that the UE does not send a CHANNEL REQUEST message with the establishment cause "Other services which can be completed with an SDCCH"
NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS-DELIVER TPDU in step 7

Information element	Comment Value
TP-DCS	default alphabet, class 2 "11110010"B

SMS-DELIVER TPDU in step 21

TP-DCS	default alphabet, class 1 "11110001"B

SMS-DELIVER TPDU in step 35

TP-DCS	default alphabet "00000000"B

16.1.3.5 Test requirements

After UE sends a negative acknowledgement (RP-ERROR) in step 11, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After UE sends a negative acknowledgement (RP-ERROR) in step 23, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After step 53 the ME shall unset the "memory capability exceeded" notification flag on the USIM.

After step 56 UE shall not attempt to send a RP-SMMA RPDU.

16.1.4 Test of the status report capabilities and of SMS-COMMAND:

This test applies to UEs which support the status report capabilities.

16.1.4.1 Definition

16.1.4.2 Conformance requirement

The SMS offers the SC the capabilities of informing the UE of the status of a previously sent mobile originated short message. This is achieved by the SC returning a status report TPDU (SMS-STATUS-REPORT) to the originating UE.

SMS-COMMAND enables an UE to invoke an operation at the SC.

The UE shall increment TP-MR by 1 for each SMS-SUBMIT or SMS-COMMAND being submitted.

References

- 3GPP TS 23.040 clause 3.2.9.
- 3GPP TS 23.040 clause 9.2.3.6.

16.1.4.3 Test purpose

1) To verify that the UE is able to accept a SMS-STATUS-REPORT TPDU.
2) To verify that the UE is able to use the SMS-COMMAND functionality correctly and sends an SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.1.4.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated".

Related ICS/IXIT Statements

Support of SMS MO/PP and MT/PP.

Test procedure

a) The UE is made to send a Mobile Originated short message setting TP-SRR as in steps a) to d) of test 16.1.2 (SMS Mobile originated).

b) The SS sends a CP-DATA message containing a RP-DATA RPDU itself containing an SMS-STATUS-REPORT TPDU.

c) The SS sends a RRC CONNECTION RELEASE message.

d) The UE is made to send an SMS-COMMAND message enquiring about the previously submitted short message.

e) void.

f) The SS acknowledges the CP-DATA message from the UE with a CP-ACK followed by a CP-DATA message containing an RP-ACK RPDU

g) After receiving the CP-ACK from the UE, the SS releases the RRC connection by using a RRC CONNECTION RELEASE message.

h) The UE is made to send an SMS-COMMAND message requiring to delete the previously submitted short message.

i) steps e) to g) are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	CM SERVICE REQUEST	
6		<--	AUTHENTICATION REQUEST	
7		-->	AUTHENTICATION RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11		<--	CP-ACK	Sent within TC1M after step 10
12		<--	CP-DATA	Contains RP-ACK RPDU
13	SS			Waits max 25 s for CP-ACK
14		-->	CP-ACK	
15		<--	RRC CONNECTION RELEASE	RRC connection is released.
16		-->	RRC CONNECTION RELEASE COMPLETE	
17			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
18		-->	PAGING RESPONSE	
19		<--	AUTHENTICATION REQUEST	
20		-->	AUTHENTICATION RESPONSE	
21		<--	SECURITY MODE COMMAND	
22		-->	SECURITY MODE COMPLETE	
23		<--	CP-DATA	Contains RP-DATA RPDU (SMS-STATUS-REPORT TPDU)
24		-->	CP-ACK	
25		-->	CP-DATA	Contains RP-ACK RPDU
26		<--	CP-ACK	
27		<--	RRC CONNECTION RELEASE	RRC connection is released.
28		-->	RRC CONNECTION RELEASE COMPLETE	
29	UE			The UE is made to send an SMS-COMMAND message enquiring about the previously submitted SM
30		<--	SYSTEM INFORMATION	BCCH
31		-->	RRC CONNECTION REQUEST	CCCH
32		<--	RRC CONNECTION SETUP	CCCH
33		-->	RRC CONNECTION SETUP COMPLETE	DCCH
34		-->	CM SERVICE REQUEST	
35		<--	AUTHENTICATION REQUEST	
36		-->	AUTHENTICATION RESPONSE	
37		<--	SECURITY MODE COMMAND	
38		-->	SECURITY MODE COMPLETE	
39		-->	CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
40		<--	CP-ACK	
41		<--	CP-DATA	Contains RP-ACK RPDU
42		-->	CP-ACK	
43		<--	RRC CONNECTION RELEASE	RRC connection is released.
44		-->	RRC CONNECTION RELEASE COMPLETE	
45	UE		The UE is made to send an SMS-COMMAND	message requiring to delete the previously submitted SM.
46		-->	RRC CONNECTION REQUEST	CCCH
47		<--	RRC CONNECTION SETUP	CCCH
48		-->	RRC CONNECTION SETUP COMPLETE	DCCH
49		-->	CM SERVICE REQUEST	
50		<--	AUTHENTICATION REQUEST	

Step	Direction		Message	Comments
	UE	SS		
51	-->		AUTHENTICATION RESPONSE	
52	<--		SECURITY MODE COMMAND	
53	-->		SECURITY MODE COMPLETE	
	.			
54	-->		CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
55	<--		CP-ACK	
56	<--		CP-DATA	Contains RP-ACK RPDU
57	-->		CP-ACK	
58	<--		RRC CONNECTION RELEASE	RRC connection is released.
59	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-SRR	status report is requested "1"B

SMS-STATUS-REPORT TPDU (SS to UE in step 23):

Information element	Comment Value
TP-MR	same as previous SMS-SUBMIT
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-RA	same as the Destination address of the SMS-SUBMIT
TP-ST	SM received "00000000"B

first SMS-COMMAND TPDU (UE to SS in step 39)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-SUBMIT plus "1"
TP-SRR	status report requested "1"B
TP-CT	Enquiry relating to previously submitted short message "00000000"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

second SMS-COMMAND TPDU (UE to SS in step 54)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-COMMAND plus "1"
TP-CT	Delete previously submitted short message "00000010"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

16.1.4.5 Test requirements

After step 23 UE accept a SMS-STATUS-REPORT TPDU.

After step 38 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

After step 53 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.1.5 Test of message class 0 to 3

16.1.5.1 Short message class 0

16.1.5.1.1 Definition

16.1.5.1.2 Conformance requirement

When a mobile terminated message is class 0 and the UE has the capability of indicating short messages, the UE shall indicate the message immediately and send an acknowledgement to the SC when the message has successfully reached the UE irrespective of whether there is memory available in the USIM or ME. The message shall not be automatically stored in the USIM or ME.

References

3GPP TS 23.038 clause 4.

16.1.5.1.3 Test purpose

To verify that the UE will accept and indicate but not store a class 0 message, and that it will accept and indicate a class 0 message if its message store is full.

NOTE: failure of this test in a UE could cause it to reject a class 0 message when its SMS memory becomes full. This could lead to unwanted repetitions between the UE and the service centre.

16.1.5.1.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS sends a class 0 message by using the method described in step a) of clause 16.1.1 but with the TPDU described in this clause.

b) The UE message store shall be filled (for example by using the method of clause 16.1.3 test of the memory available notification) with the same SMS-DELIVER TPDU except that TP-DCS is set to class 1.

c) The SS sends a class 0 message as in step a).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The content of the short message shall be indicated by the ME. The UE shall not store the message. This can be checked by verifying that it is impossible to retrieve any short messages from the UE message store.
14	SS			The UE message store shall be filled (for example by using the method of 16.1.3) with Class 1 SMS-DELIVER TPDU.
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK RPDU.
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The content of the short message shall be indicated by the ME.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 0 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 0	"1111 0000"B

SMS-DELIVER TPDU (containing a class 1 message to fill the UE message store) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.1.5.1.5 Test requirements

After step 7 UE shall accept and indicate but not store a class 0 message.

After step 21 UE shall accept and indicate a class 0 message.

16.1.5.2 Test of class 1 short messages

This test shall apply to UEs which support:

- storing of received Class 1 Short Messages; and
- indicating of stored Short Messages.

16.1.5.2.1 Definition

16.1.5.2.2 Conformance requirement

When a mobile terminated message is class 1, the UE shall send an acknowledgement to the SC when the message has successfully reached the UE and can be stored, either in the ME or in the USIM.

References

3GPP TS 23.038 clause 4.

16.1.5.2.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 1 message, i.e. that it stores the message in the ME or USIM and sends an acknowledgement (at RP and CP-Layer).

16.1.5.2.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the UE message store shall be empty;
  - for storing of class 1 Short Messages, the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 1 to the UE as specified in clause 16.1.1, step a).

b) The Short Message is recalled (e.g. by means of the MMI).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The short message shall be recalled and indicated at the UE.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 1 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.1.5.2.5 Test requirements

After step 7 UE shall store the message in the ME or USIM and send an acknowledgement.

16.1.5.3 Test of class 2 short messages

16.1.5.3.1 Definition

Class 2 Short Messages are defined as USIM specific, and the UE shall ensure that a message of this class is stored on the USIM.

16.1.5.3.2 Conformance requirement

When a mobile terminated message is Class 2, the UE shall ensure that the message has been correctly transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a "protocol error, unspecified" error message if the short message cannot be stored in the USIM and there is other short message storage available at the UE. If all the short message storage at the UE is already in use, the UE shall return "memory capacity exceeded".

Reference(s)

3GPP TS 23.040 clause 9.2.3.10.

3GPP TS 23.038 clause 4.

3GPP TS 34.108 clause 8.3.2.28.

16.1.5.3.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 2 message, i.e. that it stores the message correctly in the USIM, and if this is not possible, returns a protocol error message, with the correct error cause, to the network.

There are 2 cases:

1) if the UE supports storing of short messages in the USIM and in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "protocol error, unspecified";

2) if the UE supports storing of short messages in the USIM and not in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded".

NOTE: If the UE supports storing of short messages in the USIM and the ME, and storage in the ME is full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded". This case is not tested in this test.

16.1.5.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the ME message store shall be empty;
  - the ME shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least two free records and one full record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. 4<u>10</u> (SMS) in $EF_{~~SST~~UST}$ set to allocated and activated;
    - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 2 to the UE as specified in clause 16.1.1, step b).

b) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "OK" ("90 00").

c) Step a) is repeated.

d) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "memory problem" ("92 40").

e) The USIM simulator indicates if an attempt was made in steps a) and c) to store the messages and if the messages are stored according to the requirement.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<	Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	-->		CP-ACK	
9	ME			The ME shall correctly store the short message in a free record of EFSMS in the USIM, i.e. -the ME shall use a free record - the first byte of the record shall indicate "message received by UE from network" - the TS-Service-Centre-Address shall be correctly stored - the TPDU shall be identical to that sent by the SS - bytes following the TPDU shall be set to "FF"
10	USIM			The USIM simulator returns the status response "OK" ("90 00"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
11	-->		CP-DATA	Contains RP-ACK RPDU.
12	<--		CP-ACK	
13	<--		RRC CONNECTION RELEASE	
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
22	-->		CP-ACK	
23	ME			The ME shall attempt to store the short message in a free record of EFSMS in the USIM.
24	USIM			The USIM simulator returns the status response "memory problem" ("92 40"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
25	-->		CP-DATA	Contains RP-ERROR RPDU with error cause "protocol error, unspecified" if the UE supports storing of short messages in the ME, or error cause "memory capacity exceeded" if not.
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	
28	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU (containing a class 2 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 2	"1111 0010"B

16.1.5.3.5 Test requirements

After step 10 UE shall confirm that the short message is stored in the USIM and send CP-DATA containing RP-ACK RPDU.

After step 24 UE shall confirm that the short message cannot be stored in the USIM and send CP-DATA containing RP-ERROR RPDU. If UE supports storing of short message in the ME, the error cause of RP-ERROR RPDU shall be "protocol error, unspecified", and if not the error cause of RP-ERROR RPDU shall be "memory capacity exceeded"

16.1.5.4 Test of class 3 short messages

For further study.

16.1.6 Test of short message type 0 (R99 and REL-4 UE)

For further study.

16.1.6a Test of short message type 0 (≥ REL-5 UE)

16.1.6a.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Circuit Switched mode. The UE shall discard the contents of the short message type 0.

This test shall apply to all ≥ REL-5 UEs supporting receipt of short messages in CS mode.

16.1.6a.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.1.6a.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

NOTE: Failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the US and the service centre. In addition service affecting restrictions could happen to the customer.

16.1.6a.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in MM-state "Idle, updated".

the ME- and (U)SIM message store shall be empty.

Related ICS/IXIT Statements

Support for Short Message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

UE capable of displaying short messages

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

a) The SS sends a type 0 short message by using the method described in step a) of clause 16.1.1 but with the TPDU described in this section.

b) The ME- and (U)SIM short message store shall be filled (for example by using the method of clause 16.1.3 test of the memory available notification).

c) The SS sends a type 0 short message as in step a).

Maximum Duration of Test

5 minutes

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.
14		SS		The ME- and (U)SIM message store shall be filled (for example by using the method of 16.1.3).
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

Information element	Comment Value
TP-MIT	SMS-DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned 0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet "0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

16.1.7 Test of the replace mechanism for SM type 1-7

16.1.7.1 Definition

16.1.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code and originating address with the new short message.

Reference(s)

3GPP TS 23.040 clause 9.2.3.9.

16.1.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.1.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn.

b) The SS delivers a short message to the UE as specified in clause 16.1.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d) Void

e) Step c) is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to indicate the Short Messages stored in the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14	-->		PAGING RESPONSE	
15	<--		AUTHENTICATION REQUEST	
16	-->		AUTHENTICATION RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA, TP-UD different from step 7
20	-->		CP-ACK	
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25			(void)	
26			(void)	
27			(void)	
28			(void)	
29			(void)	
30			(void)	
31			(void)	
32			(void)	
33			(void)	
34			(void)	
35			(void)	
36			(void)	
37			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
38	-->		PAGING RESPONSE	
39	<--		AUTHENTICATION REQUEST	
40	-->		AUTHENTICATION RESPONSE	
41	<--		SECURITY MODE COMMAND	
42	-->		SECURITY MODE COMPLETE	
43	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA, TP-UD different from step 7 and 19
44	-->		CP-ACK	
45	-->		CP-DATA	Contains RP-ACK RPDU.
46	<--		CP-ACK	
47	<--		RRC CONNECTION RELEASE	
48	-->		RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108

Step	Direction		Message	Comments
	UE	SS		
50	-->		PAGING RESPONSE	
51	<--		AUTHENTICATION REQUEST	
52	-->		AUTHENTICATION RESPONSE	
53	<--		SECURITY MODE COMMAND	
54	-->		SECURITY MODE COMPLETE	
55	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA, TP-UD different from step 43
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61	SS			Prompts the operator to indicate the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19 and 55 shall be retrievable and indicated

Specific Message Contents

SMS-DELIVER TPDU

Information element	Comment Value
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.1.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19 and 55 shall be retrieved and indicated.

16.1.8 Test of the reply path scheme

16.1.8.1 Definition

16.1.8.2 Conformance requirement

When a replying UE receives an original mobile terminated short message it has:

- originating SME = TP-Originating Address in the SMS-DELIVER TPDU;
- original SC = RP-Originating Address in the RP-MT-DATA.

When submitting the reply mobile originated short message, the replying UE should use parameters as follows:

- TP-Destination Address in SMS-SUBMIT TPDU = originating SME;
- RP-Destination Address in RP-MO-DATA = original SC.

Reference(s)

3GPP TS 23.040 Annex D.5, D.6

16.1.8.3 Test purpose

This procedure verifies that the UE is able to send a Reply Short Message back to the correct originating SME even if in the meantime it receives another Short Message.

16.1.8.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Support for Short message MO/PP.

The value of timer TC1M.

Test procedure

a) The SS delivers a Short Message as specified in clause 16.1.1, step b) with TP-Reply-Path set to 1.

b) Step a) is repeated but with:
   - different TP-Originating-Address for the originating SME;
   - different RP-Originating-Address for the original SC; and
   - different message contents TP-User-Data.

c) UE sends the Reply Short Message corresponding to one of two received Short Messages (e.g. by means of the MMI).

d) step c) is repeated for the other Short Message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-RP set to 1
8	-->		CP-ACK	Sent within TC1M after step 7
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14	-->		PAGING RESPONSE	
15	<--		AUTHENTICATION REQUEST	
16	-->		AUTHENTICATION RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-OA, RP-OA and TP-UD different from step 7
20	-->		CP-ACK	Sent within TC1M after step 7
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25	UE			UE sends the Reply Short Message corresponding to one of two received Short Messages.
26	<--		SYSTEM INFORMATION	BCCH
27	-->		RRC CONNECTION REQUEST	CCCH
28	<--		RRC CONNECTION SETUP	CCCH
29	-->		RRC CONNECTION SETUP COMPLETE	DCCH
30	-->		CM SERVICE REQUEST	
31	<--		AUTHENTICATION REQUEST	
32	-->		AUTHENTICATION RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the message TP-DA = TP-OA corresponding to the message
36	<--		CP-ACK	Sent within TC1M after step 35
37	<--		CP-DATA	Contains RP-ACK RPDU
38	SS			Waits max 25 s for CP-ACK
39	-->		CP-ACK	
40	<--		RRC CONNECTION RELEASE	RRC connection is released.
40A	-->		RRC CONNECTION RELEASE COMPLETE	
41	UE			UE sends the Reply Short Message corresponding to other Short Message.
42	<--		SYSTEM INFORMATION	BCCH
43	-->		RRC CONNECTION REQUEST	CCCH
44	<--		RRC CONNECTION SETUP	CCCH
45	-->		RRC CONNECTION SETUP COMPLETE	DCCH
46	-->		CM SERVICE REQUEST	
47	<--		AUTHENTICATION REQUEST	
48	-->		AUTHENTICATION RESPONSE	
49	<--		SECURITY MODE COMMAND	
50	-->		SECURITY MODE COMPLETE	
51	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the Message TP-DA = TP-OA corresponding to the message
52	<--		CP-ACK	Sent within TC1M after step 51
53	<--		CP-DATA	Contains RP-ACK RPDU
54	SS			Waits max 25 s for CP-ACK
55	-->		CP-ACK	
56	<--		RRC CONNECTION RELEASE	RRC connection is released.
57	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU

Information element	Comment	Value
TP-MMS	no more messages are waiting in SC	"1"B
TP-RP	Reply Path exists	"1"B

16.1.8.5 Test requirements

After step 34 UE shall send the Reply Short Message corresponding to one of two previously received short messages.

After step 50 UE shall send the Reply Short Message corresponding to the other of two previously received short messages.

16.1.9 Multiple SMS mobile originated

16.1.9.1 UE in idle mode

This test applies to UE supporting the ability of sending multiple short messages on the same RRC connection when there is no call in progress.

16.1.9.1.1 Definition

16.1.9.1.2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a CM SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old MM connection is transmitted;
- before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection;
- the Transaction Identifier used on the new MM connection shall be different to that used on the old MM connection; and
- the UE shall not initiate establishment of the new MM connection before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- 3GPP TS 23.040 clause 3.1.
- 3GPP TS 24.011 clause 5.4.

16.1.9.1.3 Test purpose

To verify that the UE is able to correctly send multiple short messages on the same RRC connection when using a DCCH.

16.1.9.1.4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Whether SMS messages are stored in the USIM and/or the ME.

Foreseen final state of UE

Idle, updated.

Test procedure

a) The UE shall be set up to send 3 short messages as multiple SM to the SS. The SS answers correctly to RRC CONNECTION REQUEST on CCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU. The Transaction Identifier used on this MM connection is 'x'.

d) The UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old MM connection is transmitted. The UE shall not initiate establishment of the new MM connection before the final CP-DATA (i.e. the one carrying the RP-ACK for the first short message) has been received. Before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection. The Transaction Identifier used on the new MM connection shall be y, where y <> x (see procedure c)).

e) The SS waits a maximum of 5 s after receiving the CM SERVICE REQUEST for the CP-ACK message from the UE.

f) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

g) The UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old MM connection is transmitted. Before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection. The Transaction Identifier used on the new MM connection shall be z, where z <> y (see procedure d)). The UE shall not initiate establishment of the new MM connection before the final CP-DATA (i.e. the one carrying the RP-ACK for the second short message) has been received.

h) The SS waits a maximum of 5 s after receiving the CM SERVICE REQUEST for the CP-ACK message from the UE.

i) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

j) The SS waits a maximum of 5 s after sending CP-DATA for the CP-ACK message from the UE.

k) The SS sends a RRC CONNECTION RELEASE to the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	CM SERVICE REQUEST	
6		<--	AUTHENTICATION REQUEST	
7		-->	AUTHENTICATION RESPONSE	
8		<--	SECURITY MODE COMMAND	

Step	Direction		Message	Comments
	UE	SS		
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 10, 11, 12 and 14 shall be x.
11	<--		CP-ACK	
12	<--		CP-DATA	Contains RP-ACK RPDU
13	-->		CM SERVICE REQUEST	CM service type set to "Short message transfer".
14	-->		CP-ACK	Shall be sent within 5 s of step 13
15	<--		CM SERVICE ACCEPT	
16	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 16, 17, 18 and 20 shall be y where y <> x (see step 10).
17	<--		CP-ACK	
18	<--		CP-DATA	Contains RP-ACK RPDU
19	-->		CM SERVICE REQUEST	CM service type set to "Short message transfer".
20	-->		CP-ACK	Shall be sent within 5 s of step 19
21	<--		CM SERVICE ACCEPT	
22	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 22, 23, 24 and 25 shall be z, where z <> y (see step 16).
23	<--		CP-ACK	
24	<--		CP-DATA	Contains RP-ACK RPDU
25	-->		CP-ACK	Shall be sent within 5 s of step 24
26	<--		RRC CONNECTION RELEASE	RRC connection is released.
27	-->		RRC CONNECTION RELEASE COMPLETE	

16.1.9.1.5 Test requirements

In step 13 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old MM connection is transmitted.

In step 19 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old MM connection is transmitted.

16.1.9.2 UE in active mode

This test applies to UE supporting the ability of sending concatenated multiple short messages when there is a call in progress.

16.1.9.2.1 Definition

16.1.9.2.2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a CM SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old MM connection is transmitted;
- before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection;
- the Transaction Identifier used on the new MM connection shall be different to that used on the old MM connection; and
- the UE shall not initiate establishment of the new MM connection before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- 3GPP TS 23.040 clause 3.1.
- 3GPP TS 24.011 clause 5.4.

16.1.9.2.3 Test purpose

To verify that the UE is able to correctly concatenate multiple short messages on the same RRC connection when sent parallel to a call.

16.1.9.2.4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Support for state U10 of call control.

Whether SMS messages are stored in the USIM and/or the ME.

Foreseen final state of UE

Idle, updated.

Test procedure

a) A data or speech call is established on a DTCH with the SS and the state U10 of call control is entered. The UE is set up to send 3 short messages as multiple SM to the SS. After the reception of the CM SERVICE REQUEST, the SS sends a CM SERVICE ACCEPT message.

b) Steps c) to k) of the test procedure in clause 16.1.9.1.4 are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
2	UE			The UE is set up to send 3 short messages as multiple SM
3	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
4	<--		CM SERVICE ACCEPT	
7	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 7, 8, 9 and 11 shall be x.
8	<--		CP-ACK	
9	<--		CP-DATA	Contains RP-ACK RPDU
10	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
11	-->		CP-ACK	Shall be sent within 5 s of step 10
12	<--		CM SERVICE ACCEPT	
13	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 13, 14, 15 and 17 shall be y where y <> x (see step 7).
14	<--		CP-ACK	
15	<--		CP-DATA	Contains RP-ACK RPDU
16	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
17	-->		CP-ACK	Shall be sent within 5 s of step 16
18	<--		CM SERVICE ACCEPT	
19	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 19, 20, 21 and 22 shall be z, where z <> y (see step 13).
20	<--		CP-ACK	
21	<--		CP-DATA	Contains RP-ACK RPDU
22	-->		CP-ACK	Shall be sent within 5 s of step 21
23	<--		RRC CONNECTION RELEASE	RRC connection is released.
24	-->		RRC CONNECTION RELEASE COMPLETE	

16.1.9.2.5 Test requirements

In step 10 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old MM connection is transmitted.

In step 16 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old MM connection is transmitted.

16.1.10 Test of capabilities of simultaneously receiving a short message whilst sending a mobile originated short message

16.1.10.1 Definition

16.1.10.2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is in SMS mobile originated.

Reference

3GPP TS 23.040 clause 3.1.

16.1.10.3 Test purpose

The test verifies that the UE is capable of simultaneously receiving a network originated SM whilst sending a mobile originated SM.

16.1.10.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in MM-state "Idle, updated";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP and MT/PP.

Support for state U10 of call control.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The SS is configured to receive a mobile originated SM. In clause 16.1.2 steps a) and b) are repeated and, using the end of the CP-DATA message from the UE as a trigger, the SS sends a SM to the UE. In this case a new transaction identifier shall be used in the CP messages of SMS mobile terminated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		CM SERVICE REQUEST	
6	<--		AUTHENTICATION REQUEST	
7	-->		AUTHENTICATION RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11		SS		The SS sends an SM to the UE triggered by the end of the CP-DATA message from the UE
12	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
13		UE		The UE shall correctly receive the SM and indicate that a message has arrived. In the MO case the UE shall send the CP-ACK message with transaction identifier assigned to this transfer. In the MT case the UE shall send a CP-ACK message and a CP-DATA message containing the RP-ACK RPDU. The transaction identifier shall be the same as chosen by the SS for the MT transfer.

Step	Direction		Message	Comments
	UE	SS		
NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.1.10.5 Test requirements

After step 12 UE shall correctly receive the SM and indicate that a message has arrived.

16.2 Short message service point to point on PS mode

All of test cases in this clause are applied to the UE supported PS mode.

16.2.1 SMS mobile terminated

16.2.1.1 Definition

16.2.1.2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-DELIVER) at any time, independently of whether or not there is a PDP context in progress. A report will always be returned to the SC, confirming that the UE has received the short message.

Reference

3GPP TS 23.040 clause 3.1.

16.2.1.3 Test purpose

To verify the ability of a UE to receive and decode the SMS where provided for the point to point service.

16.2.1.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Support for session management state"PDP-ACTIVE".

Test procedure

a) Mobile terminates establishment of Radio Resource Connection. After the completion of RRC Connection the SS authenticates the UE and activates ciphering.

After the SS receives SECURITY MODE COMPLETE, the SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU).

b) The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

c) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

d) Steps a), b) and c) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

e) Steps a) and b) are repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 s after the last CP-DATA retransmission the SS then initiates the channel release. The 5 s is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions.

f) The SMS message store shall be cleared manually by the operator.

g) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.

The SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU). The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

h) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release. The SMS message store shall be cleared manually by the operator.

i) Steps g) and h) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

j) Step g) is repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 s after the last CP-DATA retransmission the SS initiates the channel release. The 15 s is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions (during PDP context in progress).

k) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The PDP context is cleared by the SS with a disconnect message. (The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA RPDU (SMS DELIVER TPDU) message. The information element of the CP-DATA message is RP-DATA.

The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

l) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The PDP context shall be cleared from the UE. (The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA message. The information element of the CP-DATA message is RP-DATA RPDU (SMS DELIVER TPDU).

The SS waits a maximum of 25 s for the CP-ACK message and then a maximum of 60 s for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
8		SS		Waits max 25 s for CP-ACK
9	-->		CP-ACK	
10		SS		Waits max 60 s for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	
13	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection (disconnection of layer 2).
14	UE			The UE shall indicate that an SM has arrived.
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
22		SS		Waits max 25 s for CP-ACK
23	-->		CP-ACK	
24		SS		Waits max 60 s for RP-ACK RPDU
25	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
26		SS		First CP-DATA message not acknowledged by SS
27	-->		CP-DATA	Retransmitted CP-DATA from UE within twice TC1M, after step 25, contains RP-ACK RPDU
28	<--		CP-ACK	Second CP_DATA message is acknowledged
29	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
30	UE			The UE shall indicate that an SM has arrived.
31			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
32	-->		SERVICE REQUEST	
33	<--		AUTHENTICATION AND CIPHERING REQUEST	
34	-->		AUTHENTICATION AND CIPHERING RESPONSE	
35	<--		SECURITY MODE COMMAND	
36	-->		SECURITY MODE COMPLETE	
37	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
38		SS		Waits max 25 s for CP-ACK
39	-->		CP-ACK	
40		SS		Waits max 60 s for RP-ACK RPDU
41	-->		CP-DATA	Contains RP-ACK RPDU
42		SS		First CP-DATA message not acknowledged by SS
43			CP-DATA	Retransmitted CP-DATA from UE within twice TC1M after step 41, contains RP-ACK RPDU
44		SS		Retransmitted CP-DATA message not acknowledged by SS
45	UE			Depending upon the maximum number of CP-DATA retransmissions implemented, step 43 and 44 may be repeated.
46	<--		RRC CONNECTION RELEASE	RRC connection is released after a duration of TC1M + 5 s after the last CP-DATA retransmission.

Step	Direction		Message	Comments
	UE	SS		
47	-->		RRC CONNECTION RELEASE COMPLETE	
48	UE			The UE shall indicate that an SM has arrived.
49	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
50			(void)	
51	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
52	SS			Waits max 25 s for CP-ACK
53	-->		CP-ACK	
54	SS			Waits max 60 s for RP-ACK RPDU
55	-->		CP-DATA	Contains RP-ACK RPDU
56	<--		CP-ACK	
57	<--		DEACTIVATE PDP CONTEXT REQUEST	Deactivates an existing PDP context.
58	-->		DEACTIVATE PDP CONTEXT ACCEPT	
59	UE			The UE shall indicate that an SM has arrived.
60	UE			Clear the SMS message store
61	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
62			(void)	
63	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
64	SS			Waits max 25 s for CP-ACK
65	-->		CP-ACK	
66	SS			Waits max 60 s for RP-ACK RPDU
67	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
68	SS			First CP-DATA message not acknowledged by SS
69	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 67, contains RP-ACK RPDU
70	<--		CP-ACK	Second CP-DATA message is acknowledged
71	<--		DEACTIVATE PDP CONTEXT REQUEST	Deactivates an existing PDP context.
72	-->		DEACTIVATE PDP CONTEXT ACCEPT	
73	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
74	UE			The UE shall indicate that an SM has arrived.
75	UE			Clear the SMS message store
76	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
77			(void)	
78	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
79	SS			Waits max 25 s for CP-ACK
80	-->		CP-ACK	
81	SS			Waits max 60 s for RP-ACK RPDU
82	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
83	SS			First CP-DATA message not acknowledged by SS
84	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 82, contains RP-ACK RPDU
85	SS			Retransmitted CP-DATA message not acknowledged by SS
86	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 83-84 may be repeated. The maximum number of retransmissions may however not exceed three.
87	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 15 s after the last CP-DATA retransmission.
88	-->		RRC CONNECTION RELEASE COMPLETE	
89	UE			The UE shall indicate that an SM has arrived.
90	UE			Clear the SMS message store
91	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
92			(void)	
93			(void)	
94	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)

Step	Direction		Message	Comments
	UE	SS		
94A	<--		DEACTIVATE PDP CONTEXT REQUEST	The PDP context is deactivated by the SS. The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS.
94B	-->		DEACTIVATE PDP CONTEXT ACCEPT	This message may be transmitted after this step timing.
95	SS			Waits max 25 s for CP-ACK
96	-->		CP-ACK	
97	SS			Waits max 60 s for RP-ACK RPDU
98	-->		CP-DATA	Contains RP-ACK RPDU
99	<--		CP-ACK	
100	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
101	UE			The UE shall indicate that an SM has arrived.
102	UE			Clear the SMS message store
103	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
104			(void)	
105	-->		DEACTIVATE PDP CONTEXT REQUEST	The PDP context is deactivated by the UE. The PDP context deactivation is continued in parallel to the following
106	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
107	<--		DEACTIVATE PDP CONTEXT ACCEPT	
108	-->		CP-ACK	shall be sent before 25 s after the start of step 106
109	SS			Waits max 60 s for RP-ACK RPDU
110	-->		CP-DATA	Contains RP-ACK RPDU
111	<--		CP-ACK	
112	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
113	UE			The UE shall indicate that an SM has arrived.
114	UE			Clear the SMS message store
NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS DELIVER TPDU

Information element	Comment Value
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)
NOTE: The 160 characters in TP-UD shall include at least one occurrence of each character in the default alphabet (see 3GPP TS 23.038, clause 6.2.1).	

16.2.1.5 Test requirements

After step 7 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 25 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 30 UE shall indicate that an SM has arrived.

After step 43 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 48 UE shall indicate that an SM has arrived.

After step 51 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 67 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 73 UE shall indicate that an SM has arrived.

After step 78 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 89 UE shall indicate that an SM has arrived.

After step 94 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

After step 106 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 s and CP-DATA containing RP-ACK within 60 s.

16.2.2 SMS mobile originated

16.2.2.1 Definition

16.2.2.2 Conformance requirements

An active UE shall be able to submit short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is a PDP context in progress.

Reference

3GPP TS 23.040 clause 3.1.

16.2.2.3 Test purpose

To verify that the UE is able to correctly send a short message where the SMS is provided for the point to point service.

16.2.2.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP.

Support for state PDP-ACTIVE of session management.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The UE shall be set up to send a SM to the SS. The SS responds to RRC CONNECTION REQUEST by allocating a CCCH. The SS receives RRC CONNECTION SETUP COMPLETE on DCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message.

d) The SS sends a channel release message to the UE.

e) Steps a) and b) are repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 s after the last CP-DATA retransmission the SS initiates channel release. The 5 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions.

f) Steps a) and b) are repeated. On receipt of the CP-DATA from the UE the SS sends a CP-ERROR message within TC1M containing a "Network Failure" cause. Then the SS initiates channel release.

g) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The UE is set up to send an SM to the SS. ~~After the reception of the SERVICE REQUEST, the SS sends a SERVICE ACCEPT message.~~

h) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 s for the CP-ACK message. Then the SS sends a channel release message to the UE.

i) Step g) is repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 s after the last CP-DATA retransmission the SS initiates channel release. The 15 s is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions (during a PDP context in progress).

j) (void)

k) The UE is set up to send an SM to the SS. On receipt of the SERVICE REQUEST the SS sends a SERVICE REJECT message with the reject cause set to "GPRS services not allowed". After 5 s the SS initiates channel release.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	SERVICE REQUEST	
6		<--	AUTHENTICATION AND CIPHERING REQUEST	
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11		<--	CP-ACK	Sent within TC1M after step 10
12		<--	CP-DATA	Contains RP-ACK RPDU
13		SS		Waits max 25 s for CP-ACK
14		-->	CP-ACK	
15		<--	RRC CONNECTION RELEASE	RRC connection is released.
16		-->	RRC CONNECTION RELEASE COMPLETE	
17		<--	SYSTEM INFORMATION	BCCH
18		-->	RRC CONNECTION REQUEST	CCCH
19		<--	RRC CONNECTION SETUP	CCCH
20		-->	RRC CONNECTION SETUP COMPLETE	DCCH
21		-->	SERVICE REQUEST	
22		<--	AUTHENTICATION AND CIPHERING REQUEST	

Step	Direction		Message	Comments
	UE	SS		
23	-->		AUTHENTICATION AND CIPHERING RESPONSE	
24	<--		SECURITY MODE COMMAND	
25	-->		SECURITY MODE COMPLETE	
26	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
27	SS			SS configured not to send CP-ACK
28	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 26
29	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 28 may be repeated. The maximum number of retransmissions may however not exceed three.
30	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 5 s after the last CP-DATA retransmission.
31	-->		RRC CONNECTION RELEASE COMPLETE	
32	<--		SYSTEM INFORMATION	BCCH
33	-->		RRC CONNECTION REQUEST	CCCH
34	<--		RRC CONNECTION SETUP	CCCH
35	-->		RRC CONNECTION SETUP COMPLETE	DCCH
36	-->		SERVICE REQUEST	
37	<--		AUTHENTICATION AND CIPHERING REQUEST	
38	-->		AUTHENTICATION AND CIPHERING RESPONSE	
39	<--		SECURITY MODE COMMAND	
40	-->		SECURITY MODE COMPLETE	
41	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
42	<--		CP-ERROR	Sent within TC1M containing "Network Failure" cause.
43	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
44	-->		RRC CONNECTION RELEASE COMPLETE	
45	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
46	UE			The UE is set up to send an SM
47	~~-->~~		(void)~~SERVICE REQUEST~~	
48	~~<--~~		(void)~~SERVICE ACCEPT~~	
49	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
50	<--		CP-ACK	Sent within TC1M after step 49
51	<--		CP-DATA	Contains RP-ACK RPDU
52	SS			Waits max 25 s for CP-ACK
53	-->		CP-ACK	
54	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
56a	UE			The UE is set up to send an SM
57	~~-->~~		(void)~~SERVICE REQUEST~~	
58	~~<--~~		(void)~~SERVICE ACCEPT~~	
59	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
60	SS			SS configured not to send CP-ACK
61	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 59
62	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 61 may be repeated. The maximum number of retransmissions may however not exceed three.
63	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1m + 15 s after the last CP-DATA retransmission.
64	-->		RRC CONNECTION RELEASE COMPLETE	
65-77			(void)	
78	-->		RRC CONNECTION REQUEST	initiate outgoing call
79	<--		RRC CONNECTION SETUP	

Step	Direction		Message	Comments
	UE	SS		
80	-->		RRC CONNECTION SETUP COMPLETE	
81	-->		SERVICE REQUEST	
82	<--		SERVICE REJECT	Reject cause set to "GPRS services not allowed"
83	<--		RRC CONNECTION RELEASE	Sent 5 s after SERVICE REJ
84	-->		RRC CONNECTION RELEASE COMPLETE	
NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.2.2.5 Test requirements

After step 9 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 26 UE shall retransmit a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 43 UE shall send the RRC CONNECTION RELEASE COMPLETE.

After step ~~48~~46 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 61 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 82 UE shall not send CP-DATA.

16.2.3 Test of memory full condition and memory available notification:

The Memory Available Notification provides a means for the UE to notify the network that it has memory available to receive one or more short messages. The SMS status field in the USIM contains status information on the "memory available" notification flag.

16.2.3.1 Definition

16.2.3.2 Conformance requirement

1. When a mobile terminated message is Class 2, the UE shall ensure that the message has been transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a protocol error message if the short message cannot be stored in the USIM and there is other short message storage available in the UE. If all the short message storage in the UE is already in use, the UE shall return "memory capability exceeded".

2. When the UE rejects a short message due to lack of available memory capability the need to transfer notification shall be stored in the USIM.

3. If the memory capability becomes available because memory is cleared, the value of the memory capability exceeded notification flag in the USIM is read. If the flag is set, the UE notifies the network that memory capability is now available. After a positive acknowledgement from the network, the ME unsets the memory capability exceeded notification flag in the USIM.

References

- 3GPP TS 23.040 clause 9.2.3.10, 3GPP TS 23.038 clause 4.
- 3GPP TS 23.040 clause 10.3 (operation 14).
- 3GPP TS 23.040 clause 10.3 (operation 14).

16.2.3.3 Test purpose

1. To verify that the UE sends the correct acknowledgement when its memory in the USIM becomes full.
2. To verify that the UE sends the correct acknowledgement when its memory in the ME and the USIM becomes full, and sets the "memory exceeded" notification flag in the USIM.
3. To verify that the UE performs the "memory available" procedure when its message store becomes available for receiving short messages, and only at this moment.

16.2.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the SMS message storage shall be empty;
  - the UE shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least one record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. ~~4~~10 (SMS) in $EF_{~~SST~~UST}$ set to allocated and activated.
  - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

The value of timer TC1M.

Test procedure

a) step a) of clause 16.2.5.3 (test of Class 2 Short Messages) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

b) a Class 1 Short Message is sent to the UE.

c) step b) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

d) a Short Message is sent to the UE with the DCS field of the SMS-DELIVER TPDU set to 0.

e) the SS prompts the operator to read a short message and to remove it from the message store of the UE.

f) the SS waits for a RRC CONNECTION REQUEST from the UE, and sends a RRC CONNECTION SETUP.

g) after the SS receives a RRC CONNECTION SETUP COMPLETE, the SS authenticates the UE and activates ciphering.

h) the SS answers to the RP-SMMA from the UE with a CP-DATA containing a RP-ACK RPDU.

i) after the UE has acknowledged the CP-DATA with a CP-ACK, the SS releases the RRC connection. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.

j) step e) is repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	SS			Waits max 25 s for CP-ACK
9	-->		CP-ACK	
10	SS			Waits max 60 s for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	Within TC1M after step 11
13	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 1-~~18~~13 is repeated until UE sends a negative acknowledgement (RP-ERROR) in step 11. The RP-ERROR RPDU cause field shall be "Protocol error, unspecified" if there is message capability in the ~~ME~~USIM, or "Memory capability exceeded" if there is no message capability in the USIM~~ME~~. If the total memory store of the UE is full, the ME shall set the "memory capability exceeded" notification flag on the USIM.
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
22	SS			Waits max 25 s for CP-ACK
23	-->		CP-ACK	
24	SS			Waits max 60 s for RP-ACK RPDU
25	-->		CP-DATA	Shall contain RP-ACK RPDU if there is memory capability in the ME. If not it shall contain RP-ERROR RPDU which cause field shall be "memory capability exceeded". If the total memory store of the UE now becomes full at this step, the ME shall set the "memory cap. exceed" notification flag on the USIM.
26	<--		CP-ACK	Within TC1M after step 25
27	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 19-36 is repeated until the UE sends an RP-ERROR. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

Step	Direction		Message	Comments
	UE	SS		
28	-->		RRC CONNECTION RELEASE COMPLETE	
29			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
30	-->		SERVICE REQUEST	
31	<--		AUTHENTICATION AND CIPHERING REQUEST	
32	-->		AUTHENTICATION AND CIPHERING RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) with TP-DCS set to 0
36		SS		Waits max 25 s for CP-ACK
37	-->		CP-ACK	
38		SS		Waits max 60 s for RP-ACK RPDU
39	-->		CP-DATA	Shall contain RP-ERROR RPDU with error cause "memory capability exceeded".
40	<--		CP-ACK	Within TC1M after step 39
41	<--		RRC CONNECTION RELEASE	RRC connection is released.
42	-->		RRC CONNECTION RELEASE COMPLETE	
43		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
44	<--		SYSTEM INFORMATION	BCCH
45	-->		RRC CONNECTION REQUEST	CCCH
46	<--		RRC CONNECTION SETUP	CCCH
47	-->		RRC CONNECTION SETUP COMPLETE	DCCH
48	-->		SERVICE REQUEST	
49	<--		SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-SMMA RPDU
51	<--		CP-ACK	
52	<--		CP-DATA	Contains RP-ACK RPDU
53	-->		CP-ACK	Acknowledge of CP-DATA containing the RP-ACK RPDU. The ME shall unset the "memory capability exceeded" notification flag on the USIM.
54	<--		RRC CONNECTION RELEASE	RRC connection is released. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
57		UE		Shall not attempt to send a RP-SMMA RPDU. This is verified by checking that the UE does not send a CHANNEL REQUEST message with the establishment cause "Other services which can be completed with an SDCCH"
NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS-DELIVER TPDU in step 7

Information element	Comment Value
TP-DCS	default alphabet, class 2 "11110010"B

SMS-DELIVER TPDU in step 21

TP-DCS	default alphabet, class 1 "11110001"B

SMS-DELIVER TPDU in step 35

TP-DCS	default alphabet "00000000"B

16.2.3.5 Test requirements

After UE sends a negative acknowledgement (RP-ERROR) in step 11, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After UE sends a negative acknowledgement (RP-ERROR) in step 23, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After step 53 the ME shall unset the "memory capability exceeded" notification flag on the USIM.

After step 56 UE shall not attempt to send a RP-SMMA RPDU.

16.2.4 Test of the status report capabilities and of SMS-COMMAND:

This test applies to UEs which support the status report capabilities.

16.2.4.1 Definition

16.2.4.2 Conformance requirement

The SMS offers the SC the capabilities of informing the UE of the status of a previously sent mobile originated short message. This is achieved by the SC returning a status report TPDU (SMS-STATUS-REPORT) to the originating UE.

SMS-COMMAND enables an UE to invoke an operation at the SC.

The UE shall increment TP-MR by 1 for each SMS-SUBMIT or SMS-COMMAND being submitted.

References

- 3GPP TS 23.040 clause 3.2.9.
- 3GPP TS 23.040 clause 9.2.3.6.

16.2.4.3 Test purpose

1) To verify that the UE is able to accept a SMS-STATUS-REPORT TPDU.
2) To verify that the UE is able to use the SMS-COMMAND functionality correctly and sends an SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.2.4.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED".

Related ICS/IXIT Statements

Support of SMS MO/PP and MT/PP.

Test procedure

a) The UE is made to send a Mobile Originated short message setting TP-SRR as in steps a) to d) of test 16.2.2 (SMS Mobile originated).

b) The SS sends a CP-DATA message containing a RP-DATA RPDU itself containing an SMS-STATUS-REPORT TPDU.

c) The SS sends a RRC CONNECTION RELEASE message.

d) The UE is made to send an SMS-COMMAND message enquiring about the previously submitted short message.

e) Void.

f) The SS acknowledges the CP-DATA message from the UE with a CP-ACK followed by a CP-DATA message containing an RP-ACK RPDU.

g) After receiving the CP-ACK from the UE, the SS releases the RRC connection by using a RRC CONNECTION RELEASE message.

h) The UE is made to send an SMS-COMMAND message requiring to delete the previously submitted short message.

i) steps e) to g) are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	SERVICE REQUEST	
6		<--	AUTHENTICATION AND CIPHERING REQUEST	
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11		<--	CP-ACK	Sent within TC1M after step 10
12		<--	CP-DATA	Contains RP-ACK RPDU
13	SS			Waits max 25 s for CP-ACK
14		-->	CP-ACK	
15		<--	RRC CONNECTION RELEASE	RRC connection is released.
16		-->	RRC CONNECTION RELEASE COMPLETE	
17			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
18		-->	SERVICE REQUEST	
19		<--	AUTHENTICATION AND CIPHERING REQUEST	
20		-->	AUTHENTICATION AND CIPHERING RESPONSE	
21		<--	SECURITY MODE COMMAND	
22		-->	SECURITY MODE COMPLETE	
23		<--	CP-DATA	Contains RP-DATA RPDU (SMS-STATUS-REPORT TPDU)
24		-->	CP-ACK	
25		-->	CP-DATA	Contains RP-ACK RPDU
26		<--	CP-ACK	
27		<--	RRC CONNECTION RELEASE	
28		-->	RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
29	UE			The UE is made to send an SMS-COMMAND message enquiring about the previously submitted SM
30		<--	SYSTEM INFORMATION	BCCH
31		-->	RRC CONNECTION REQUEST	CCCH
32		<--	RRC CONNECTION SETUP	CCCH
33		-->	RRC CONNECTION SETUP COMPLETE	DCCH
34		-->	SERVICE REQUEST	
35		<--	AUTHENTICATION AND CIPHERING REQUEST	
36		-->	AUTHENTICATION AND CIPHERING RESPONSE	
37		<--	SECURITY MODE COMMAND	
38		-->	SECURITY MODE COMPLETE	
39		-->	CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
40		<--	CP-ACK	
41		<--	CP-DATA	Contains RP-ACK RPDU
42		-->	CP-ACK	
43		<--	RRC CONNECTION RELEASE	
44		-->	RRC CONNECTION RELEASE COMPLETE	
45	UE		The UE is made to send an SMS-COMMAND	message requiring to delete the previously submitted SM.
46		-->	RRC CONNECTION REQUEST	CCCH
47		<--	RRC CONNECTION SETUP	CCCH
48		-->	RRC CONNECTION SETUP COMPLETE	DCCH
49		-->	SERVICE REQUEST	
50		<--	AUTHENTICATION AND CIPHERING REQUEST	
51		-->	AUTHENTICATION AND CIPHERING RESPONSE	
52		<--	SECURITY MODE COMMAND	
53		-->	SECURITY MODE COMPLETE	
54		-->	CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
55		<--	CP-ACK	
56		<--	CP-DATA	Contains RP-ACK RPDU
57		-->	CP-ACK	
58		<--	RRC CONNECTION RELEASE	
59		-->	RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-SRR	status report is requested "1"B

SMS-STATUS-REPORT TPDU (SS to UE in step 23):

Information element	Comment Value
TP-MR	same as previous SMS-SUBMIT
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-RA	same as the Destination address of the SMS-SUBMIT
TP-ST	SM received "00000000"B

first SMS-COMMAND TPDU (UE to SS in step 39)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-SUBMIT plus "1"
TP-SRR	status report requested "1"B
TP-CT	Enquiry relating to previously submitted short message "00000000"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

second SMS-COMMAND TPDU (UE to SS in step 54)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-COMMAND plus "1"
TP-CT	Delete previously submitted short message "00000010"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

16.2.4.5 Test requirements

After step 23 UE accept a SMS-STATUS-REPORT TPDU.

After step 39 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

After step 54 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.2.5 Test of message class 0 to 3

16.2.5.1 Short message class 0

16.2.5.1.1 Definition

16.2.5.1.2 Conformance requirement

When a mobile terminated message is class 0 and the UE has the capability of indicating short messages, the UE shall indicate the message immediately and send an acknowledgement to the SC when the message has successfully reached the UE irrespective of whether there is memory available in the USIM or ME. The message shall not be automatically stored in the USIM or ME.

References

3GPP TS 23.038, clause 4.

16.2.5.1.3 Test purpose

To verify that the UE will accept and indicate but not store a class 0 message, and that it will accept and indicate a class 0 message if its message store is full.

NOTE: failure of this test in a UE could cause it to reject a class 0 message when its SMS memory becomes full. This could lead to unwanted repetitions between the UE and the service centre.

16.2.5.1.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:

- the UE shall be in GMM-state "GMM-REGISTERED";
- the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS sends a class 0 message by using the method described in step a) of clause 16.2.1 but with the TPDU described in this clause.

b) The UE message store shall be filled (for example by using the method of clause 16.2.3 test of the memory available notification) with the same SMS-DELIVER TPDU except that TP-DCS is set to class 1.

c) The SS sends a class 0 message as in step a).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The content of the short message shall be indicated by the ME. The UE shall not store the message. This can be checked by verifying that it is impossible to retrieve any short messages from the UE message store.
14		SS		The UE message store shall be filled (for example by using the method of 16.2.3) with Class 1 SMS-DELIVER TPDU.
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK RPDU.
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	

Step	Direction		Message	Comments
	UE	SS		
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The content of the short message shall be indicated by the ME.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 0 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 0	"1111 0000"B

SMS-DELIVER TPDU (containing a class 1 message to fill the UE message store) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.2.5.1.5 Test requirements

After step 7 UE shall accept and indicate but not store a class 0 message.

After step 21 UE shall accept and indicate a class 0 message.

16.2.5.2 Test of class 1 short messages

This test shall apply to UEs which support:

- storing of received Class 1 Short Messages; and
- indicating of stored Short Messages.

16.2.5.2.1 Definition

16.2.5.2.2 Conformance requirement

When a mobile terminated message is class 1, the UE shall send an acknowledgement to the SC when the message has successfully reached the UE and can be stored, either in the ME or in the USIM.

References

3GPP TS 23.038 clause 4.

16.2.5.2.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 1 message, i.e. that it stores the message in the ME or USIM and sends an acknowledgement (at RP and CP-Layer).

16.2.5.2.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:

- the UE shall be in GMM-state "GMM-REGISTERED";
- the UE message store shall be empty;
- for storing of class 1 Short Messages, the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 1 to the UE as specified in clause 16.2.1, step a).

b) The Short Message is recalled (e.g. by means of the MMI).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The short message shall be recalled and indicated at the UE.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 1 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.2.5.2.5 Test requirements

After step 7 UE shall store the message in the ME or USIM and send an acknowledgement.

16.2.5.3 Test of class 2 short messages

16.2.5.3.1 Definition

Class 2 Short Messages are defined as USIM specific, and the UE shall ensure that a message of this class is stored on the USIM.

16.2.5.3.2 Conformance requirement

When a mobile terminated message is Class 2, the UE shall ensure that the message has been correctly transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a "protocol error, unspecified" error message if the short message cannot be stored in the USIM and there is other short message storage available at the UE. If all the short message storage at the UE is already in use, the UE shall return "memory capacity exceeded".

Reference(s)

3GPP TS 23.040 clause 9.2.3.10; 3GPP TS 23.038 clause 4. 3GPP TS 34.108 clause 8.3.2.28.

16.2.5.3.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 2 message, i.e. that it stores the message correctly in the USIM, and if this is not possible, returns a protocol error message, with the correct error cause, to the network.

There are 2 cases:

1) if the UE supports storing of short messages in the USIM and in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "protocol error, unspecified";

2) if the UE supports storing of short messages in the USIM and not in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded".

NOTE: If the UE supports storing of short messages in the USIM and the ME, and storage in the ME is full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded". This case is not tested in this test.

16.2.5.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the ME message store shall be empty;
  - the ME shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least two free records and one full record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. ~~4~~10 (SMS) in EF_{UST}~~SST~~ set to allocated and activated;
    - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 2 to the UE as specified in clause 16.2.1, step b).

b) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "OK" ("90 00").

c) Step a) is repeated.

d) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "memory problem" ("92 40").

e) The USIM simulator indicates if an attempt was made in steps a) and c) to store the messages and if the messages are stored according to the requirement.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	-->		CP-ACK	
9	ME			The ME shall correctly store the short message in a free record of EFSMS in the USIM, i.e. -the ME shall use a free record - the first byte of the record shall indicate "message received by UE from network" - the TS-Service-Centre-Address shall be correctly stored - the TPDU shall be identical to that sent by the SS - bytes following the TPDU shall be set to "FF"
10	USIM			The USIM simulator returns the status response "OK" ("90 00"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
11	-->		CP-DATA	Contains RP-ACK RPDU.
12	<--		CP-ACK	
13	<--		RRC CONNECTION RELEASE	
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	

Step	Direction		Message	Comments
	UE	SS		
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
22	-->		CP-ACK	
23	ME			The ME shall attempt to store the short message in a free record of EFSMS in the USIM.
24	USIM			The USIM simulator returns the status response "memory problem" ("92 40"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
25	-->		CP-DATA	Contains RP-ERROR RPDU with error cause "protocol error, unspecified" if the UE supports storing of short messages in the ME, or error cause "memory capacity exceeded" if not.
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	
28	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU (containing a class 2 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 2	"1111 0010"B

16.2.5.3.5 Test requirements

After step 10 UE shall confirm that the short message is stored in the USIM and send CP-DATA containing RP-ACK RPDU.

After step 24 UE shall confirm that the short message cannot be stored in the USIM and send CP-DATA containing RP-ERROR RPDU. If UE supports storing of short message in the ME, the error cause of RP-ERROR RPDU shall be "protocol error, unspecified", and if not the error cause of RP-ERROR RPDU shall be "memory capacity exceeded"

16.2.5.4 Test of class 3 short messages

For further study.

16.2.6 Test of short message type 0 (R99 and REL-4 UE)

For further study.

16.2.6a Test of short message type 0 (≥ REL-5 UE)

16.2.6a.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Packet Switched mode. The UE discards the contents of the short message type 0.

This test shall apply to all ≥ REL-5 UEs supporting receipt of short messages in PS mode.

16.2.6a.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.2.6a.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE shall discard its contents. This means that

- the UE shall be able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not,
- the UE shall not indicate the receipt of the type 0 short message to the user,
- the short message shall neither be stored in the (U)SIM nor ME.

NOTE: failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the US and the service centre. In addition service affecting restrictions could happen to the customer.

16.2.6a.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in GMM-state "GMM-REGISTERED";

the ME- and (U)SIM message store shall be empty.

Related ICS/IXIT Statements

Support for Short Message MT/PP.

Whether SMS messages are stored in the USIM and/or the ME.

UE capable of displaying short messages

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

a) The SS sends a type 0 short message by using the method described in step a) of clause 16.2.1 but with the TPDU described in this section.

b) The ME- and (U)SIM short message store shall be filled (for example by using the method of clause 16.2.3 test of the memory available notification).

c) The SS sends a type 0 short message as in step a).

Maximum Duration of Test

5 minutes

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.
14	SS			The ME- and (U)SIM message store shall be filled (for example by using the method of 16.1.3).
15			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The UE shall discard the type 0 short message. This means that the UE does not indicate the receipt of the type 0 short message to the user. The UE shall not store the message in the (U)SIM or ME. This can be checked by verifying that it is impossible to retrieve any short messages from the ME- and (U)SIM message store.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

Information element	CommentValue
TP-MIT	SMS-DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet "0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

16.2.7 Test of the replace mechanism for SM type 1-7

16.2.7.1 Definition

16.2.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code and originating address with the new short message.

Reference(s)

3GPP TS 23.040; clause 9.2.3.9.

16.2.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.2.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn.

b) The SS delivers a short message to the UE as specified in clause 16.2.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d)

e) Step c) is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to indicate the Short Messages stored in the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14	-->		SERVICE REQUEST	
15	<--		AUTHENTICATION AND CIPHERING REQUEST	
16	-->		AUTHENTICATION AND CIPHERING RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA1, TP-UD different from step 7
20	-->		CP-ACK	
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25			(void)	
26			(void)	
27			(void)	
28			(void)	
29			(void)	

Step	Direction		Message	Comments
	UE	SS		
30			(void)	
31			(void)	
32			(void)	
33			(void)	
34			(void)	
35			(void)	
36			(void)	
37			(void)	See 3GPP TS34.108
38	-->		SERVICE REQUEST	
39	<--		AUTHENTICATION AND CIPHERING REQUEST	
40	-->		AUTHENTICATION AND CIPHERING RESPONSE	
41	<--		SECURITY MODE COMMAND	
42	-->		SECURITY MODE COMPLETE	
43	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA, TP-UD different from step 7 and 19
44	-->		CP-ACK	
45	-->		CP-DATA	Contains RP-ACK RPDU.
46	<--		CP-ACK	
47	<--		RRC CONNECTION RELEASE	
48	-->		RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
50	-->		SERVICE REQUEST	
51	<--		AUTHENTICATION AND CIPHERING REQUEST	
52	-->		AUTHENTICATION AND CIPHERING RESPONSE	
53	<--		SECURITY MODE COMMAND	
54	-->		SECURITY MODE COMPLETE	
55	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA, TP-UD different from step 43
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61	SS			Prompts the operator to indicate the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19 and 55 shall be retrievable and indicated

Specific Message Contents

SMS-DELIVER TPDU

Information element	Comment Value
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.2.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19 and 55 shall be retrieved and indicated.

16.2.8 Test of the reply path scheme

16.2.8.1 Definition

16.2.8.2 Conformance requirement

When a replying UE receives an original mobile terminated short message it has:

- originating SME = TP-Originating Address in the SMS-DELIVER TPDU;
- original SC = RP-Originating Address in the RP-MT-DATA.

When submitting the reply mobile originated short message, the replying UE should use parameters as follows:

- TP-Destination Address in SMS-SUBMIT TPDU = originating SME;
- RP-Destination Address in RP-MO-DATA = original SC.

Reference(s)

3GPP TS 23.040 Annex D clauses D.5 and D.6.

16.2.8.3 Test purpose

This procedure verifies that the UE is able to send a Reply Short Message back to the correct originating SME even if in the meantime it receives another Short Message.

16.2.8.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Support for Short message MO/PP.

The value of timer TC1M.

Test procedure

a) The SS delivers a Short Message as specified in clause 16.2.1, step b) with TP-Reply-Path set to 1.

b) Step a) is repeated but with:
   - different TP-Originating-Address for the originating SME;
   - different RP-Originating-Address for the original SC; and
   - different message contents TP-User-Data.

c) UE sends the Reply Short Message corresponding to one of two received Short Messages (e.g. by means of the MMI).

d) step c) is repeated for the other Short Message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-RP set to 1
8	-->		CP-ACK	Sent within TC1M after step 7
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
14	-->		SERVICE REQUEST	
15	<--		AUTHENTICATION AND CIPHERING REQUEST	
16	-->		AUTHENTICATION AND CIPHERING RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-OA, RP-OA and TP-UD different from step 7
20	-->		CP-ACK	Sent within TC1M after step 7
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25	UE			UE sends the Reply Short Message corresponding to one of two received Short Messages.
26	<--		SYSTEM INFORMATION	BCCH
27	-->		RRC CONNECTION REQUEST	CCCH
28	<--		RRC CONNECTION SETUP	CCCH
29	-->		RRC CONNECTION SETUP COMPLETE	DCCH
30	-->		SERVICE REQUEST	
31	<--		AUTHENTICATION AND CIPHERING REQUEST	
32	-->		AUTHENTICATION AND CIPHERING RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the message TP-DA = TP-OA corresponding to the message
36	<--		CP-ACK	Sent within TC1M after step 35
37	<--		CP-DATA	Contains RP-ACK RPDU
38	SS			Waits max 25 s for CP-ACK
39	-->		CP-ACK	
40	<--		RRC CONNECTION RELEASE	RRC connection is released.
41	-->		RRC CONNECTION RELEASE COMPLETE	
42	UE			UE sends the Reply Short Message corresponding to other Short Message.
43	<--		SYSTEM INFORMATION	BCCH
44	-->		RRC CONNECTION REQUEST	CCCH

Step	Direction		Message	Comments
	UE	SS		
45	<--		RRC CONNECTION SETUP	CCCH
46	-->		RRC CONNECTION SETUP COMPLETE	DCCH
47	-->		SERVICE REQUEST	
48	<--		AUTHENTICATION AND CIPHERING REQUEST	
49	-->		AUTHENTICATION AND CIPHERING RESPONSE	
50	<--		SECURITY MODE COMMAND	
51	-->		SECURITY MODE COMPLETE	
52	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the Message TP-DA = TP-OA corresponding to the message
53	<--		CP-ACK	Sent within TC1M after step 52
54	<--		CP-DATA	Contains RP-ACK RPDU
55	SS			Waits max 25 s for CP-ACK
56	-->		CP-ACK	
57	<--		RRC CONNECTION RELEASE	RRC connection is released.
58	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU

Information element	Comment Value	
TP-MMS	no more messages are waiting in SC	"1"B
TP-RP	Reply Path exists	"1"B

16.2.8.5 Test requirements

After step 34 UE shall send the Reply Short Message corresponding to one of two previously received short messages.

After step 51 UE shall send the Reply Short Message corresponding to the other of two previously received short messages.

16.2.9 Multiple SMS mobile originated

16.2.9.1 UE in idle mode

This test is not applicable for R99.

16.2.9.2 UE in active mode

This test is not applicable for R99.

16.2.10 Test of capabilities of simultaneously receiving a short message whilst sending a mobile originated short message

16.2.10.1 Definition

16.2.10.2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is in SMS mobile originated.

Reference

3GPP TS 23.040 clause 3.1.

16.2.10.3 Test purpose

The test verifies that the UE is capable of simultaneously receiving a network originated SM whilst sending a mobile originated SM.

16.2.10.4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in GMM-state "GMM-REGISTERED";
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP and MT/PP.

Support for state PDP-ACTIVE of session management.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The SS is configured to receive a mobile originated SM. In clause 16.2.2 steps a) and b) are repeated and, using the end of the CP-DATA message from the UE as a trigger, the SS sends a SM to the UE. In this case a new transaction identifier shall be used in the CP messages of SMS mobile terminated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	SERVICE REQUEST	
6		<--	AUTHENTICATION AND CIPHERING REQUEST	
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11		SS		The SS sends an SM to the UE triggered by the end of the CP-DATA message from the UE
12		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)

Step	Direction		Message	Comments
	UE	SS		
13	UE			The UE shall correctly receive the SM and indicate that a message has arrived. In the MO case the UE shall send the CP-ACK message with transaction identifier assigned to this transfer. In the MT case the UE shall send a CP-ACK message and a CP-DATA message containing the RP-ACK RPDU. The transaction identifier shall be the same as chosen by the SS for the MT transfer.
NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.				

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.2.10.5 Test requirements

After step 12 UE shall correctly receive the SM and indicate that a message has arrived.

16.3 Short message service cell broadcast

16.3.1 Definition

16.3.2 Conformance requirements

In idle mode, the UE ~~listens to the BCCH and to the paging sub-channel for the paging group it belongs to. The UE is required to receive and analyse the paging messages and immediate assignment messages sent on the paging subchannel corresponding to its paging subgroup.~~have the ability to ignore repeat broadcasts of CBS messages already received (message has not changed since it was last broadcast i.e. sequence number has not changed within the message's indicated geographical area);

A UE supporting Cell Broadcast Service (CBS) shall be capable to receive BMC messages in the Idle mode.

Reference

- 3GPP TS 23.041 clause 8.
- 3GPP TS 25.324 clause 11.

16.3.3 Test purpose

This test verifies that an UE supporting SMS-CB is able to receive SMS-CB messages and is able to ignore repeated broadcasts of CBS messages.

16.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters;
  - the SS provides a BCCH/CCCH to support the UE in idle mode;

- periodic location updating is disabled.

- User Equipment:

  - the UE shall be in the idle updated state.

Related ICS/IXIT Statements

Support for short message transmission cell broadcast.

Test procedure

Three Cell Broadcast (CB) messages are sent by the SS on the ~~CBCH~~CTCH with message codes 0,1,1 in serial number fields respectively.

~~The UE shall respond to the page.~~

Expected sequence

Since the SMS-CB messages are sent continuously, a table is not applicable in this test.

Specific Message Contents:

Cell broadcast test message content

Information element	Comment Value
Message Type	CBS Message "1"B (see 3GPP TS 25.324, clause 11.1)
Message ID	
Serial Number	
- Geographical scope	"00"B
- Message code	see test procedure "0000000000"B or "0000000001"B
- Update number	as applicable
Data Coding Scheme	Default alphabet, English "00000001"B
CB Data	max 1246 octets

16.3.5 Test requirements

In consequence of test the UE shall ignore third message and store two messages.

16.4 Default message contents:

16.4.1 Default message contents for SM-CP protocol

CP-DATA

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	any value from the set {0, ..., 6}
TI flag	0
Message type	00000001
CP-User data	
length indicator	
RPDU	max 248 octets

CP-ACK

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	
TI flag	
Message type	00000100

CP-ERROR

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	
TI flag	
Message type	00010000
CP-Cause	
Cause value	see 3GPP TS 24.011, clause 8.1.4.2

16.4.2 Default message contents for SM-RP protocol

RP-DATA

Information element	Comment Value
RP-Message Type	"001"B (SS->UE) or "000"B(UE->SS)
RP-Message Reference	see 3GPP TS 24.011, clause 8.2.3
RP-Originator Address	see 3GPP TS 24.011, clause 8.2.5.1
RP-Destination Address	see 3GPP TS 24.011, clause 8.2.5.2
RP-User Data	see 3GPP TS 24.011, clause 8.2.5.3
Length indicator	
TP-DATA	max 233 octets

RP-ACK

Information element	Comment Value
RP-Message Type	"010"B (UE->SS) or "011"B(SS->UE)
RP-Message Reference	see 3GPP TS 24.011, clause 8.2.3
RP-User Data	see 3GPP TS 24.011, clause 8.2.5.3 : optional, may be present or not
RP-User Data IEI	"1000001"B
Length indicator	
TP-Data	max 232 octets

RP-ERROR

Information element	Comment Value
RP-Message Type	"100"B (UE->SS) or "101"B(SS->UE)
RP-Message Reference	see 3GPP TS 24.011, clause 8.2.3
RP-Cause	see 3GPP TS 24.011, clause 8.2.5.4
RP-User Data	see 3GPP TS 24.011, clause 8.2.5.3: optional, may be present or not
RP-User Data IEI	"1000001"B
Length indicator	
TP-Data	max 232 octets

RP-SMMA UE->SS)

Information element	Comment Value
RP-Message Type	"110"B (UE->SS)
RP-Message Reference	see 3GPP TS 24.011, clause 8.2.3

16.4.3 Default message contents for SM-TP protocol

SMS DELIVER TPDU

Information element	Comment Value
TP-MTI	SMS DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned"0"B
TP-OA	an international number coded E.164
TP-PID	default"00000000"B
TP-DCS	default alphabet "00000000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	
TP-UD	max 140 octets

SMS SUBMIT TPDU

Information element	CommentValue
TP-MTI	SMS SUBMIT"01"B
TP-RD	SC shall accept same SMS-SUBMIT "0"B
TP-VPF	TP-VP field not present "00"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM "00"B
TP-SRR	no request of status report "00"B
TP-MR	
TP-DA	an international number coded E164
TP-PID	default"00000000"B
TP-DCS	default alphabet "00000000"B
TP-VP	
TP-UDL	
TP-UD	max 140 octets

SMS COMMAND TPDU

Information element	Comment Value
TP-MTI	SMS-COMMAND"10"B
TP-UDHI	TP-UD contains only the SM "00"B
TP-SRR	status report not requested "0"B
TP-MR	
TP-PID	default"00000000"B
TP-CT	
TP-MN	
TP-DA	an international number coded E164
TP-CDL	
TP-CD	

SMS STATUS REPORT TPDU

Information element	Comment Value
TP-MTI	SMS-STATUS-REPORT"10"B
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-MR	
TP-RA	the destination address of the previous SM MO
TP-SCTS	any legal value (cf. 3GPP TS 23.040, clause 9.2.3.11)
TP-DT	any legal value (cf. 3GPP TS 23.040, clause 9.2.3.13)
TP-ST	see 3GPP TS 23.040, clause 9.2.3.15

17 User Equipment features (MMI, VHE, MexE, SAT)

17.1 Test of autocalling restrictions

17.1.1 General

It is essential that all autocalling apparatus is prevented from continuously dialling a given number, to avoid machines repeatedly disturbing PSTN subscribers in error, or numerous repeat attempts to unobtainable numbers which cause waste of valuable network resources. Therefore autocalling restrictions are defined by TS 22.001.

The tests shall be performed using all of the call methods specified by the supplier in the IXIT statement TS 34.123-2. The supplier shall state any autocalling procedures implemented and how many times they can be repeated to a single number and the minimum re-attempt interval(s), i.e. the complete re-try schedule or algorithm with parameter values. The supplier shall further describe any automatic methods for making repeated calls to a single number. The supplier shall also state in the IXIT statement the number of B-party numbers that can be stored on the list of blacklisted numbers as described in TS 22.001, annex E.

For an external R-interface the supplier shall state in the IXIT statement the procedure for autocalling restrictions for that interface and the possible parameter settings for the number of times the LTE can make a re-attempt and the minimum accepted time between re-attempts accepted by the UE. The conditions for clearing the autocalling constraints shall be stated in the IXIT statement.

For external interfaces the LTE must be programmed so that it clearly attempts to violate the autocalling constraints.

For all the tests in this clause the call setup procedure uses the Generic Setup Procedure for Circuit Switched connection as specified in TS 34.108 clause 7. A Radio Access Bearer to set up shall be selected from one of the speech or CS data bearers within the capability of the UE as specified in the ICS statement. Unless otherwise indicated, this procedure shall only run to the transmission by the SS or UE of the SETUP message (CC).

17.1.2 Constraining the access to a single number (TS 22.001 category 3)

17.1.2.1 Definition

This test checks that when an auto-dialled call to a B-party number fails due to a category 3 cause, only one retry to that number is permitted.

During this test the SETUP messages shall contain the same B-party number.

No manual intervention shall be performed except to initiate and end the test.

17.1.2.2 Conformance requirement

A repeat call attempt may be made when a call attempt is unsuccessful for the reasons listed below (as defined in TS 24.008).

These reasons are classified in three major categories:

1. "Busy destination";
2. "Unobtainable destination - temporary";
3. "Unobtainable destination - permanent/long term".

NOTE: Cause values for each category are defined in TS 22.001, annex E.

The table below describes a repeat call restriction pattern to any B number. This pattern defines a maximum number (n) of call repeat attempts; when this number n is reached, the associated B number shall be blacklisted by the UE until a manual re-set at the UE is performed in respect of that B number. When a repeat attempt to any one B number fails, or is blacklisted, this does not prevent calls being made to other B numbers.

For the categories 1 and 2 above, n shall be 10; for category 3, n shall be 1.

Call attempt	Minimum duration between call attempts
Initial call attempt	-
1st repeat attempt	5 s
2nd repeat attempt	1 min
3rd repeat attempt	1 min
4th repeat attempt	1 min
5th repeat attempt	3 min
.	
.	
nth repeat attempt	3 min

Reference:

3GPP TS 22.001 annex E.

17.1.2.3 Test purpose

To ensure the correct behaviour of the UE to TS 22.001 Category 3.

17.1.2.4 Method of test

Initial condition.

There shall be no numbers in the list of blacklisted numbers in the UE. The time set between the first re-attempt and the next re-attempt is set to the minimum value possible. The number of re-attempts is set to the lowest possible number, greater than 1, that is supported by the UE. The autocalling function is invoked for the B-party number to be used during the test.

Related ICS/IXIT Statement(s)

ICS: TBD.

IXIT: Description of auto calling management:

- selection of the auto calling;
- indication that the call failed and a re-try is attempted;
- indication that a call finally failed.

Test Procedure

Step	Direction		Message	Comments
	UE	SS		
1	UE			"called number" entered
2	→		GENERIC SETUP PROCEDURE MOBILE ORIGINATED, CS (Up to SETUP)	Establishment cause indicates "originating call".
3	←		RELEASE COMPLETE	Cause value from category 3 of TS 22.001, Annex E.
4	←		RRC CONNECTION RELEASE	
5	→		RRC CONNECTION RELEASE COMPLETE	The signalling link is released
6				The UE is invoking the auto calling function. The time between step 4 and 7 must be minimum 5 sec.
7	→		GENERIC SETUP PROCEDURE MOBILE ORIGINATED, CS (Up to SETUP)	Establishment cause indicates "originating call".
8	←		RELEASE COMPLETE	Cause value from category 3 of TS 22.001, Annex E.
9	←		RRC CONNECTION RELEASE	
10	→		RRC CONNECTION RELEASE COMPLETE	The main signalling link is released
11	UE			Clear the auto calling constraint after a minimum of 2 minutes from step 9.

17.1.2.5 Test requirements

The time between step 4 and 7 must be minimum 5 s.

No further call attempt shall be made after step 9.

17.1.3 Constraining the access to a single number (TS 22.001 categories 1 and 2)

17.1.3.1 Definition

This test checks that when an auto-dialled call to a B-party number fails due to a category 2 cause, the time between of retries complies with the requirements, and the number of retries does not exceed that declared by the UE manufacturer, and is never more than 10.

During this test the SETUP messages shall contain the same B-party number.

No manual intervention shall be performed except to initiate and end the test.

17.1.3.2 Conformance requirement

The UE must fulfil the requirements for category 1 and 2, see clause 17.1.2.2.

Reference:

3GPP TS 22.001 annex E.

17.1.3.3 Test purpose

To ensure the correct behaviour of the UE to TS 22.001 Categories 1 and 2.

17.1.3.4 Method of test

Initial condition

There shall be no numbers in the list of blacklisted numbers in the UE. The re-try scheme is set to give the shortest possible intervals between re-tries. The number of re-attempts is set to the maximum possible number (N), that is supported by the UE. The autocalling function is invoked for the B-party number to be used during the test.

Related ICS/IXIT Statement(s)

ICS: TBD

IXIT: Description of auto calling management:

- selection of the auto calling;
- indication that the call failed and a re-try is attempted;
- indication that a call finally failed.

Test Procedure

A, UE originated, generic call setup is performed up to the SETUP message. The SS then releases the establishment with a cause value from category 1 or 2 (TS 22.001, annex E).

The UE is continuously making new generic call setup attempts invoked by the auto calling function after each RRC CONNECTION RELEASE from the SS.

Step	Direction		Message	Comments
	UE	SS		
1	UE			"called number" entered
2	→		GENERIC SETUP PROCEDURE MOBILE ORIGINATED, CS (Up to SETUP)	Establishment cause indicates "originating call".
3	←		RELEASE COMPLETE	Cause value from category 1 or 2 of TS 22.001, Annex E. This shall be chosen randomly, from both categories. Cause no. 27 shall be excluded if the UE has implemented in category 3 of TS 22.001, as declared in IXIT statement
4	←		RRC CONNECTION RELEASE	
5				The UE is invoking the auto calling function. 1: At the first re-attempt the time between step 4 and 7 must be minimum 5 sec. 2: At the 2nd, 3rd and 4th re-attempt the time between step 4 and 7 must be minimum 1 min. 3: At the 5th to 10th re-attempt the time between step 4 and 7 must be minimum 3 min.
6	→		RRC CONNECTION RELEASE COMPLETE	The signalling link is released
7	→		GENERIC SETUP PROCEDURE MOBILE ORIGINATED, CS (Up to SETUP)	Establishment cause indicates "originating call".
8	←		RELEASE COMPLETE	Cause value from category 1 or 2 of TS 22.001, Annex E. This shall be chosen randomly, from both categories. Cause no. 27 shall be excluded if the UE has implemented in category 3 of TS 22.001, as declared in PIXIT statement
9	←		RRC CONNECTION RELEASE	
10	→		RRC CONNECTION RELEASE COMPLETE	The signalling link is released.
11				The auto calling function shall repeat step 5 to 9 (N-1) times. The UE shall not make more than maximum 10 re-attempts.
12	UE			Clear the auto calling constraint by manual intervention after a minimum of 4 minutes from step 11. Following the final completion of step 11 the UE initiate a call prior to manual intervention.

17.1.3.5 Test requirements

1: At the first re-attempt the time between step 4 and 7 must be minimum 5 sec. 2: At the 2nd, 3rd and 4th re-attempt the time between step 4 and 7 must be minimum 1 min. 3: At the 5th to 10th re-attempt the time between step 4 and 7 must be minimum 3 min.

The UE shall not make more than maximum 10 re-attempts.

17.1.4 Behaviour of the UE when its list of blacklisted numbers is full

17.1.4.1 Definition and applicability

This tests that the UE does not allow autocalling when its list of blacklisted numbers is full.

The number of B-party numbers that can be stored in the list of blacklisted numbers, as stated in the IXIT statement, is M.

This test shall only apply to UE that are capable of autocalling more than M B-party numbers.

17.1.4.2 Conformance requirement

The number of B numbers that can be held in the blacklist is at the manufacturers discretion but there shall be at least 8. However, when the blacklist is full the UE shall prohibit further automatic call attempts to any one number until the blacklist is manually cleared at the UE in respect of one or more B numbers.

Reference

TS 22.001, Annex E.

17.1.4.3 Test purpose

To ensure the correct behaviour of the UE when its list of blacklisted numbers is full.

17.1.4.4 Method of test

Initial condition

The list of blacklisted numbers, in the UE, shall be full. This may be achieved as described in the procedure in clause 17.1.2, applied to M B-party numbers.

Related ICS/IXIT Statement(s)

PICS: TBD.

PIXIT: Description of auto calling management:

- selection of the auto calling;
- indication that the call failed and a re-try is attempted;
- indication that a call finally failed.

Test Procedure

The autocalling function is invoked for a B-party number that is not in the list of blacklisted numbers.

Clear the autocalling constraint by manual intervention after a minimum of 10 s.

17.1.4.5 Test requirements

The UE must not initiate a call.

18 Multi-Layer Functional Tests

The present clause specifies the multi-layer functional test cases that are not covered by the interoperability radio bearer test cases in clause 14 or by any other test cases in the present document.

18.1 Radio Bearer Tests for 1.28 Mcps TDD option

18.1.1 General information for radio bearer tests (1.28 Mcps TDD)

The purpose of these radio bearer test cases is to test properly the Reference Radio Bearer configurations included in TS34.108 [9], clause 6.11 for 1.28 Mcps TDD option.

The applicability of radio bearer tests is dependent on the UE uplink and downlink radio access capabilities and UE support tele- and bearer-services. See TS 34.123-2, annex B for applicability of the specific test cases.

18.1.1.1 Generic radio bearer test procedure

Initial conditions

UE in idle mode

Test procedure

a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.11 for the actual radio bearer test.

b) The SS limits the UE allowed uplink transport format combinations according to the "Restricted UL TFCIs", as specified for the sub-test of the actual radio bearer test, using the RRC transport format combination control procedure.

c) The SS closes the test loop using UE test loop mode 1 and setting the UL RLC SDU size parameter, for all radio bearers under test, according to the "UL RLC SDU size" value as specified for the sub-test of the actual radio bearer test.

d) The SS transmits, for all radio bearers under test, an RLC SDU having the size equal to the "Test data size" as specified for the sub-test of the actual radio bearer test. See note 1.

e) The SS checks that, for all radio bearers under test, the content of the received RLC SDU has the correct content and is received having the correct transport format. See TS 34.109 [10] clause 5.3.2.6.2 for details regarding the UE loopback of RLC SDUs.

f) The SS opens the UE test loop.

g) Steps b) to f) are repeated for all sub-tests

h) The SS may optionally release the radio bearer.

i) The SS may optionally deactivate the radio bearer test mode.

NOTE: For the case when the reference radio bearer configuration under test uses RLC transperant mode in downlink then the radio bearer test case shall use a DL RLC SDU size (defined by the "Test data size" parameter) equal to the DL RLC PDU size. This is due to that the UE test loop function has no ability to perform reassembly of segmented DL RLC SDUs while the RLC is operated in transperent mode. See [7] TS 25.322 for details regarding UE operation in RLC transperent mode.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6	-->		PAGING RESPONSE (DCCH)	RR
7	<--		ACTIVATE RB TEST MODE (DCCH)	TC
8	-->		ACTIVATE RB TEST MODE COMPLETE (DCCH)	TC
9	<--		RADIO BEARER SETUP (DCCH)	RRC
10	-->		RADIO BEARER SETUP COMPLETE (DCCH)	RRC
11	<--		TRANSPORT FORMAT COMBINATION CONTROL	RRC Transport format combinations is limited to "Restricted UL TFCIs", as specified for the sub-test
12	<--		CLOSE UE TEST LOOP	TC UE test mode 1 RLC SDU size is for every active radio bearer set to "UL RLC SDU size", as specified for the sub-test.
13	-->		CLOSE UE TEST LOOP COMPLETE (DCCH)	TC
14	<--		DOWNLINK RLC SDU	Send test data using the downlink transport format combination under test
15	-->		UPLINK RLC SDU	
16	<--		OPEN UE TEST LOOP	TC
17	-->		OPEN UE TEST LOOP COMPLETE	TC
18			Repeat steps 11 to 17 for every sub-test.	
19			RB RELEASE	RRC Optional step
20	<--		DEACTIVATE RB TEST MODE	TC Optional step
21	-->		DEACTIVATE RB TEST MODE COMPLETE	TC Optional step

18.1.2 Combinations on DPCH

18.1.2.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

Implicitly tested.

18.1.2.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

Implicitly tested.

18.1.2.3 Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH

Implicitly tested.

18.1.2.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.1..2.4.1 Conformance requirement

The UE shall be able to establish the UTRAN requested radio bearers within the UE's signaled radio access capabilities.

The UE shall correctly transfer user data from peer to peer RLC entitities according to the requested radio bearer configuration.

Reference(s)

3GPP TS 25.331, clause 8.2.1

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

18.1.2.4.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.11.5.4.1.4.

18.1.2.4.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 103 bits RB7: 60 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 81 bits RB6: 103 bits RB7: 60 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 14.1.1 for test procedure.

18.1.2.4.4 Test requirements

See 18.1.1.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by SS

18.1.2.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

18.1.2.5.1 Conformance requirement

See clause 18.1.2.4.1.

18.1.2.5.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.11.5.4.1.5.

18.1.2.5.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x65(alt. 1x0)	0x99	0x40	0x148
	TF1, bits	1x39	1x99	1x40	1x148
	TF2, bits	1x65	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7,DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x99	0x40	0x148
	TF1, bits	1x39	1x99	1x40	1x148
	TF2, bits	1x65	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 99 bits RB7: 40 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 65 bits RB6: 99 bits RB7: 40 bits	RB5: 65 bits RB6: 99 bits RB7: 40 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 18.1.1.1 for test procedure.

18.1.2.5.4 Test requirements

See 18.1.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x65); RB6/TF1 (1x99); and RB7/TF1 (1x40).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 or RB7.

   - for sub-test 2: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by SS.

18.1.2.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.1.2.6.1 Conformance requirement

See clause 18.1.2.4.1.

18.1.2.6.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.11.5.4.1.6.

18.1.2.6.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x75 (alt. 1x0)	0x84	0x148
	TF1, bits	1x39	1x84	1x148
	TF2, bits	1x75	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x84	0x148
	TF1, bits	1x39	1x84	1x148
	TF2, bits	1x75	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 84 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 75 bits RB6: 84 bits	RB5: 75 bits RB6: 84 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 18.1.1.1 for test procedure.

18.1.2.6.4 Test requirements

See 18.1.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x75) and RB6/TF1 (1x84).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS.

18.1.2.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

18.1.2.7.1 Conformance requirement

See clause 18.1.2.4.1.

18.1.2.7.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.11.5.4.1.7.

18.1.2.7.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x61 (alt. 1x0)	0x87	0x148
	TF1, bits	1x39	1x87	1x148
	TF2, bits	1x61	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x87	0x148
	TF1, bits	1x39	1x87	1x148
	TF2, bits	1x61	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 87 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 61 bits RB6: 87 bits	RB5: 61 bits RB6: 87 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 18.1.1.1 for test procedure.

18.1.2.7.4 Test requirements

See 18.1.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x61) and RB6/TF1 (1x87).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.

   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

18.1.2.8 Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.1.2.8.1 Conformance requirement

See clause 18.1.2.4.1.

18.1.2.8.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.11.5.4.1.8.

18.1.2.8.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x58 (alt. 1x0)	0x76	0x148
	TF1, bits	1x39	1x76	1x148
	TF2, bits	1x58	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x76	0x148
	TF1, bits	1x39	1x76	1x148
	TF2, bits	1x58	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 76 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 58 bits RB6: 76 bits	RB5: 58 bits RB6: 76 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See clause 18.1.1.1 for test procedure.

18.1.2.8.4 Test requirements

See clause 18.1.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x58) and RB6/TF1 (1x76).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

3GPP TSG- T1 #16 ***T1-020579***
Yokohama, Japan, 29 July – 2 August 2002

3GPP TSG- T1 SIG Meeting #24 ***T1S-020371***
Yokohama, Japan, 29-31 July 2002

CR-Form-v6.1

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **307** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

Spec Title: User Equipment (UE) conformance specification;
Part 1: Protocol conformance specification ⌘

*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:	⌘	Update of clause 8.3 for TDD mode
Source:	⌘	Siemens
Work item code:	⌘	TEI, LCRTDD
Date:	⌘	10 July 2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ UE for TDD mode cannot be tested

With these updates the test cases could be reused with minimal changes for 3.84 Mcps TDD and 1.28 Mcps TDD properly.

Summary of change: ⌘ 8.3.3 UTRAN Mobility Information to be applicable to 3.84 Mcps TDD and 1.28 Mcps TDD

8.3.3.2 CELL UPDATE (Step 5), CELL UPDATE CONFIRM (Step 6), references to TS 34.108 corrected.

8.3.4 Active set update in soft handover specified for FDD only

8.3.7 Inter-system hard handover from UTRAN to GSM

8.3.7.12 Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure)

CELL UPDATE (Step n+1) references to TS 34.108 corrected.

CELL UPDATE CONFIRM (Step n+2):

- references to TS 34.108 corrected
- New tables for TDD included, one for 3.84 Mcps TDD and one for 1.28

		Mcps TDD
Consequences if not approved:	⌘	The test proses in TS 34.123-1 cannot test UE correctly.

Clauses affected:	⌘			
Other specs affected:	⌘	[ ] Other core specifications [X] Test specifications [ ] O&M Specifications	⌘	TS 34.123-2
Other comments:	⌘	Affects Rel 99, Rel 4 and Rel 5 UE test cases		

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. 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 ftp://ftp.3gpp.org/specs/ 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.

8.3.3 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 a 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 clauses 8.3.3, 8.6.3.9 and 8.6.3.10.

8.3.3.1.3 Test purpose

To confirm that the UE starts to use the new identities after it receives a UTRAN MOBILITY INFORMATION message from the SS.

8.3.3.1.4 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 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 a UTRAN MOBILITY INFORMATION CONFIRM message using the assigned new C-RNTI in MAC header as confirmation. SS waits for UE to perform periodic cell updating. When SS received a CELL UPDATE message, SS checks that UE uses the new U-RNTI in the CELL UPDATE message. Then SS sends CELL UPDATE CONFIRM. 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	←		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.
3	→		UTRAN MOBILITY INFORMATION CONFIRM	The assigned new C-RNTI shall be included in MAC header.
4				SS wait for T305 (same as the value defined in system information) to expire.
5	→		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.
8	→		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.
9	←		CELL UPDATE CONFIRM	

Specific Message Content

UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub-type as in TS 34.108, clause 9, 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 TS 34.108, clause 9 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 TS 34.108, clause 9.

8.3.3.1.5 Test requirement

After step 2 the UE shall transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH that using the assigned new C-RNTI in MAC header.

After step 4 and 7 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.

8.3.3.2 UTRAN Mobility Information: Failure (Invalid message reception)

8.3.3.2.1 Definition

8.3.3.2.2 Conformance Requirements

When the UE receives an invalid UTRAN MOBILITY INFORMATION message, 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.

8.3.3.2.3 Test Purpose

To confirm that the UE ignore the erroneous UTRAN MOBILITY INFORMATION message and report this event to the UTRAN by sending UTRAN MOBILITY INFORMATION FAILURE message, stating the appropriate failure cause and information.

8.3.3.2.4 Method of test

Initial Conditions

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 brought to CELL_FACH state. SS transmits a UTRAN MOBILITY INFORMATION message to the UE on the DCCH using AM-RLC mode. In this message, the all IEs except "Message Type" are not present. The UE shall respond by transmitting the UTRAN MOBILITY INFORMATION FAILURE message, indicating "protocol error" in IE "failure cause" and also "ASN.1 violation and encoding error" in IE "Protocol error information". After receiving the UTRAN MOBILITY INFORMATION FAILURE message, SS waits for T305 to expire. The UE shall transmit a CELL UPDATE message with the original U-RNTI identity assigned. SS sends CELL UPDATE CONFIRM message to the UE on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state.
2	←		UTRAN MOBILITY INFORMATION	See specific message content.
3	→		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	→		CELL UPDATE	
6	←		CELL UPDATE CONFIRM	

Specific Message Content

UTRAN MOBILITY INFORMATION (Step 2)

Information Element	Value/remark
All IEs	Not Present

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 ASN.1 violation and encoding error'

CELL UPDATE (Step 5)

The same message found in ~~Annex A~~TS 34.108, clause 9, 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 '0000 0000 0001'B Check to see if set to '0000 0000 0000 0000 0001'B Check to see if set to 'periodical cell updating'

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type as in ~~Annex A.~~TS 34.108, clause 9.

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 "ASN.1 violation and encoding error" 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.

8.3.4 Active set update in soft handover (FDD)

…

<NEXT CHANGE>

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.

Table 8.3.7-1

From	To	State of call	Ref. clause	Exec counter	Remark
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM AMR	U10	8.3.7.1	1	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM EFR	U10	8.3.7.1	2	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.1	3	call active state
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM HR	U10	8.3.7.1	4	call active state
UTRAN (Streaming/unknown/ uplink:14.4 DL:14.4 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.2	1	Same data rate
UTRAN (Streaming/unknown/ uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 28.8 kbps CS data	U10	8.3.7.2	2	Same data rate
UTRAN (Streaming/unknown/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 57.6 kbps CS data	U10	8.3.7.2	3	Same data rate
UTRAN (Streaming/unknown/ uplink:28.8 DL:28.8 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.3	1	Data rate down grading
UTRAN (Streaming/unknown/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.3	2	Data rate down grading
UTRAN (Streaming/unknown/ uplink:57.6 DL:57.6 kbps/CS RAB + uplink:3.4 DL:3.4 kbps SRBS)	GSM 28.8 kbps CS data	U10	8.3.7.3	3	Data rate down grading
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U1	8.3.7.4	1	During call establishment
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.5	1	failure case

UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.6	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.7	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.8	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.9	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.10	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.11	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.12	1	failure case
UTRAN AMR (conversational/speech/ uplink:12.2 DL:12.2 kbps/CS RAB + uplink:3.4 DL3.4 kbps SRBS)	GSM FR	U1	8.3.7.13	1	call under establishment

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	←		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: 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	→		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	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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(1..512). 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.
- RRC 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 Variable Length BIT STRING without Length Indicator. 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

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	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	→		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	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). 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 multi-slot 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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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 multi-slot 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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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 multi-slot 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.

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	→		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	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		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	UE			To trigger the UE to initialise an MO call
2	→		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	UE			The UE accepts the handover command and switches to the GSM dedicated channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
6	→		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	→		HANDOVER ACCESS	
9	→		HANDOVER ACCESS	
10	←		PHYSICAL INFORMATION	
11	→		SABM	
12	←		UA	
13	→		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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
5	→		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	Not Checked

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.

8.3.7.6 Inter system handover from UTRAN/To GSM/Speech/Failure (L2 Establishment)

8.3.7.6.1 Definition

8.3.7.6.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology , as is unable to obtain L2 establishment it shall

- resume the connection to UTRAN using the resources used before receiving the HANDOVER FROM UTRAN COMMAND message; and
- transmit the HANDOVER FROM UTRAN FAILURE message on uplink DCCH using AM RLC.

Reference(s)

3GPP TS 25.331 clause 8.3.7

TS 04.06 Clause 5.4.1.3

TS 04.08 Clause 3.1.5

8.3.7.6.3 Test purpose

To Test that the UE shall keep its old configuration and transmit a HANDOVER FROM UTRAN FAILURE message, which is set to "physical channel failure" in IE "Inter_RAT HO failure cause", when it receives a HANDOVER FROM UTRAN COMMAND and the connection to GSM for handover cannot be established due to failure in L2 establishment.

8.3.7.6.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51010-1 section 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. SS activates a dedicated GSM traffic channel 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. When the UE does not succeed in establishing the connection to the target radio access technology it shall revert back to UTRA configuration establish the UTRA physical channel(s) used at the time for reception of HANDOVER FROM UTRAN COMMAND transmit the HANDOVER FROM UTRAN FAILURE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	SS			The SS configures cell 2 as a GSM cell with traffic channel.
3	←		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: The target channel.
4	UE			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	→		HANDOVER ACCESS	
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	Allows a proper transmission by the MS. Sent in unacknowledged mode as soon as the SS has detected a HANDOVER ACCESS. As soon as MS detects it then it stops T3124. On SS side T3105 could be started N times at the maximum as long as the step 8 is not performed
10	→		SABM	To establish L2 connection
11	SS			SS does not sent UA frame
12	UE			On T200 expiration, SS sends N200 times the SABM frame (steps 10) Then MS deactivates new channels and reactivates old UTRA resources it had before receiving the handover command
13	→		HANDOVER FROM UTRAN FAILURE	The SS receives the message on the old channel of UTRAN cell. Sent in acknowledge mode The cause in the IE "inter-RAT change failure" is set to "physical channel failure"

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	Not Checked

8.3.7.6.5 Test requirement

The SS shall receive HANDOVER FROM UTRAN FAILURE message on the old channel of the UTRAN cell.

8.3.7.7 Inter system handover from UTRAN/To GSM/Speech/Failure (L1 Synchronization)

8.3.7.7.1 Definition

8.3.7.7.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology, as is unable to obtain L1 synchronization it shall

- resume the connection to UTRAN using the resources used before receiving the HANDOVER FROM UTRAN COMMAND message; and
- transmit the HANDOVER FROM UTRAN FAILURE message on uplink DCCH using AM RLC.

Reference(s)

TS 25.331 Clause 8.3.7.5

TS 04.06 Clause 5.4.1

8.3.7.7.3 Test purpose

To Test that the UE shall keep its old configuration and transmit a HANDOVER FROM UTRAN FAILURE message, which is set to "physical channel failure" in IE "Inter_RAT HO failure cause", when it receives a HANDOVER FROM UTRAN COMMAND and the connection to GSM for handover cannot be established due failure in L1 Synchronization.

8.3.7.7.4 Method of test

Initial conditions

System Simulator : 2 cell - Cell 1 is UTRAN, Cell 2 is GSM. GSM 51.010 version 4.4.0 section 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). The SS starts GSM cell activating 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 power level of target GSM cell is kept at very low level. The UE receives the command and configures itself accordingly but cannot 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 brings the UE into UTRAN U10 state in cell 1.
2	SS			The SS configures cell 2 as a GSM cell with a traffic channel.
3	←		HANDOVER FROM UTRAN COMMAND-GSM	Send on cell 1 (UTRAN cell) and the message indicates: The target channel for GSM FR in GSM Cell.
4	UE			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	→		HANDOVER ACCESS	
7	SS			The target GSM Trafic Channel is Switched off
8	→		HANDOVER FROM UTRAN FAILURE	The SS receives the message on the old channel of UTRAN cell. The cause in the IE "inter-RAT change failure" is set to "physical channel failure"

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	Not Checked

8.3.7.7.5 Test requirement

The SS shall receive HANDOVER FROM UTRAN FAILURE message on the old channel of the UTRAN cell.

8.3.7.8 Inter system handover from UTRAN/To GSM/Speech/Failure (Invalid Inter-RAT message)

8.3.7.8.1 Definition

8.3.7.8.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology, as the Inter-RAT message received is invalid, it shall

- resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER 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

3GPP TS 25.331 clause 8.3.7.6

8.3.7.8.3 Test purpose

To Test that the UE shall keep its old configuration and transmit a HANDOVER FROM UTRAN FAILURE message, which is set to "Inter-RAT protocol error" in IE "Inter_RAT HO failure cause", when it receives a Handover From UTRAN message, with the IE "Inter-RAT message" received within the HANDOVER FROM UTRAN COMMAND message not including a valid inter RAT handover message in accordance with the protocol specifications for the target RAT.

8.3.7.8.4 Method of test

Initial conditions

System Simulator : 1 UTRAN cell.

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 then sends an HANDOVER FROM UTRAN COMMAND message not including a valid inter RAT handover message in accordance with the protocol specifications for the target RAT, to the UE through DCCH of the serving UTRAN cell. The UE receives the command and finds that the Inter Rat message is Invalid. The SS checks that the handover is failed by checking that the UE transmits the INTER-SYSTEM HANDOVER FAILURE message to the SS in UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	←		HandoverFromUTRAN Command-GSM	Send on cell 1 (UTRAN cell) and the message carries an Invalid HANDOVER FROM UTRAN COMMAND -GSM
3	→		InterSystemHandoverFailure	The SS receives the message on the old channel of UTRAN 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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Contains an Invalid Handover Command.

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	Inter-RAT protocol error
Inter-system message	Not checked

8.3.7.8.5 Test requirement

In step 3 the SS shall receive INTER-SYSTEM HANDOVER FAILURE message on the old channel of the UTRAN cell.

8.3.7.9 Inter system handover from UTRAN/To GSM/Speech/Failure (Unsupported configuration)

8.3.7.9.1 Definition

8.3.7.9.2 Conformance requirement:

If the UE does not succeed to establish the connection to the other radio access technology, as the configuration specified in the Inter-RAT message is not supported, it shall

- resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER 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

3GPP TS 25.331 clause 8.3.7.8

8.3.7.9.3 Test purpose

To Test that the UE shall keep its old configuration and transmit a HANDOVER FROM UTRAN FAILURE message, which is set to "configuration unsupported" in IE "Inter_RAT HO failure cause", when it receives a Handover From UTRAN message, with the IE "Inter-RAT message" received within the HANDOVER FROM UTRAN COMMAND message including a Configuration not Supported by the UE.

8.3.7.9.4 Method of test

Initial conditions

System Simulator : 1 UTRAN cell.

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 then sends an HANDOVER FROM UTRAN COMMAND message including a Configuration not Supported by the UE in inter RAT handover message, to the UE through DCCH of the serving UTRAN cell. The UE receives the command and

finds that the configuration given in Inter Rat message is not supported. The SS checks that the handover is failed by checking that the UE transmits the INTER-SYSTEM HANDOVER FAILURE message to the SS in UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	←		HandoverFromUTRAN Command-GSM	Send on cell 1 (UTRAN cell) and the message carries an unsupported configuration.
3	→		InterSystemHandoverFailure	The SS receives the message on the old channel of UTRAN 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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Contains a Configuration not supported By the UE (Handover to a Band not supported by the UE)

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	configuration unsupported

Inter-system message	Not checked

8.3.7.9.5 Test requirement

In step 3 the SS shall receive INTER-SYSTEM HANDOVER FAILURE message on the old channel of the UTRAN cell.

8.3.7.10 Inter system handover from UTRAN/To GSM/Speech/Failure (Reception by UE in CELL_FACH)

8.3.7.10.1 Definition

8.3.7.10.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology, as the Message received is not compatible with receiver state, it shall

- resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER 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

3GPP TS 25.331 clause 8.3.7.8a

8.3.7.10.3 Test purpose

The UE shall keep its old configuration when the UE receives a HANDOVER FROM UTRAN COMMAND message when in CELL_FACH state and then transmit a HANDOVER FROM UTRAN COMMAND FAILURE message on the DCCH using AM RLC, which sets value "protocol error" in IE "Inter_RAT HO failure cause" and is set to "Message not compatible with receiver state" in IE "Protocol error cause".

8.3.7.10.4 Method of test

Initial conditions

System Simulator : 1 UTRAN Cell

UE : RRC State CS-DCCH_FACH (state 6-6) as specified in clause 7.4 of TS 34.108, on 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 RRC is in State CS-DCCH_FACH (state 6-6) as specified in clause 7.4 of TS 34.108, on cell 1.

Test Procedure

The SS starts the UTRAN cell and brings the UE into RRC Cell__FACH_DTCH. It then Transmits Radio Bearer reconfiguration PDU to move UE to Cell_FACH state. The SS starts GSM cell without activating any dedicated channel in the cell, then sends INTER-SYSTEM HANDOVER 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 cannot complete the handover. The SS checks that the handover is failed by checking that the UE transmits the INTER-SYSTEM HANDOVER FAILURE message to the SS in UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into CS-DCCH_FACH (state 6-6) _FACH state in cell 1
2	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: The target channel for GSM
3	→		InterSystemHandoverFailure	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	Protocol Error
-Diagnostics Type	Type1
-Protocol Error Cause	Message Not Compatible With Receiver State
Inter-system message	Not Checked

8.3.7.10.5 Test requirement

After step 2 the SS shall receive INTER-SYSTEM HANDOVER FAILURE message on the old channel of the UTRAN cell.

8.3.7.11 Inter system handover from UTRAN/To GSM/Speech/Failure (Invalid message reception)

8.3.7.11.1 Definition

8.3.7.11.2 Conformance requirement:

If the UE does not succeed to establish the connection to the other radio access technology, as the Handover Message received is short to decode into a valid message, it shall

- resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER 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

3GPP TS 25.331 clause 8.3.7

8.3.7.11.3 Test purpose

The UE shall keep its old configuration when the UE receives a Handover From UTRAN message, which will be short to decode into a valid Handover From UTRAN message. It shall then transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "ASN.1 violation or encoding error";

8.3.7.11.4 Method of test

Initial conditions

System Simulator : 1 UTRAN cell.

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 then sends an HANDOVER FROM UTRAN COMMAND message, which will be short to decode into a valid Handover From UTRAN message, to the UE through DCCH of the serving UTRAN cell. The SS checks that the handover is failed by checking that the UE transmits an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "ASN.1 violation or encoding error";

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings the UE into UTRAN U10 state in cell 1
2	←		HandoverFromUTRAN Command-GSM	Send on cell 1 (UTRAN cell) and the message is short in length to be decoded into a valid Handover From UTRAN command
3	→		RRCStatus	The SS receives the message on the old channel of UTRAN cell.

Specific message contents

HANDOVER FROM UTRAN COMMAND-GSM

A Short Message that shall not result in a valid Handover From UTRAN Command shall be sent.

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol error information	Checked to see if set to "ASN.1 Violation or Encoding error"

8.3.7.11.5 Test requirement

In step 3 the SS shall receive RRC Status message in the UTRAN cell.

8.3.7.12 Inter system handover from UTRAN/To GSM/Speech/Failure (Physical channel Failure and Reversion Failure)

8.3.7.12.1 Definition

8.3.7.12.2 Conformance requirement:

If the UE does not succeed to establish the connection to the other radio access technology and fail to resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER COMMAND message, it shall

- perform a cell update procedure; 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

3GPP TS 25.331 clause 8.3.7.5

8.3.7.12.3 Test purpose

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 target RAT cell as given in HANDOVER FROM UTRAN procedure. After the UE completes cell update procedure, the UE transmit HANDOVER FROM UTRAN FAILURE message on the DCCH using AM RLC, which is set IE "failure cause" to "physical channel failure".

8.3.7.12.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 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 INTER-SYSTEM HANDOVER 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 cannot complete the handover and wants to revert to the old configuration, but the UE cannot revert to the old configuration because the SS shall not use the old configuration. The UE transmit 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 the INTER-SYSTEM HANDOVER FAILURE message to the SS in UTRAN cell, on the DCCH using AM RLC, setting the value of IE "failure cause" to " physical channel failure".

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS brings 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	←		HandoverFromUTRAN 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	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the InterSystemHandoverCommand-GSM
5	SS			SS removes the Physical channel (DPCH) allocated to the mobile before handover command transmission
6	→		CELL UPDATE	The value "radio link failure" shall be set in IE "Cell update cause".
7	←		CELL UPDATE CONFIRM	This message include IE "Physical channel information elements".
8				The SS configure the dedicated physical channel according to the IE "Physical channel information elements" included in the CELL UPDATE CONFIRM message.
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
10	→		InterSystemHandoverFailure	The IE "failure cause" shall be set to "physical channel failure"

Specific message contents

Same as the message contents of clause 8.3.7.1 for M = 3.

CELL UPDATE (Step n+1)

The contents of CELL UPDATE message is identical as "Contents of CELL UPDATE message" as found in TS34.108, clause 9, ~~Annex~~ with the following exceptions:

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

CELL UPDATE CONFIRM (Step n+2)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, ~~Annex~~ 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 n+2) (3.84 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, 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	
- 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
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

CELL UPDATE CONFIRM (Step n+2) (1.28 Mcps TDD)

The contents of CELL UPDATE CONFIRM message is identical as "CELL UPDATE CONFIRM message" as found in TS34.108, clause 9, 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	
- 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
- Block STTD indicator	FALSE
- Downlink DPCH info for each RL	
- CHOICE mode	TDD
- DL CCTrCh List	
- TFCS ID	1
- Time info	
- Activation time	Not Present (default)
- Duration	Not Present (default)
- Common timeslot info	Not Present (default)
- Downlink DPCH timeslots and codes	Not Present (default)
- UL CCTrCH TPC List	Not Present (default)

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	Not Checked

8.3.7.12.5 Test requirement

In step 3 the SS shall receive RRC Status message in the UTRAN cell.

8.3.7.13 Inter system handover from UTRAN/To GSM/ success / call under establishment

8.3.7.13.1 Definition

8.3.7.13.2 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 call under establishment to the other radio access system.

Reference

3GPP TS 25.331 clause 8.3.7.3

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 call establishment phase and receives an HANDOVER FROM UTRAN COMMAND.

To Test that the UE continues the call in GSM cell, after Succesful completion of the Handover.

8.3.7.13.4 Method of test

Initial conditions

System Simulator : 1 UTRAN cell.

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 activates the UTRAN cell and GSM Cell. The UE is triggered to initialise an MO speech call. During the call establishment phase, the SS is configured to not transmit the RLC Acknowledgment for SETUP message. SS configures a dedicated channel in GSM Cell, 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. The SS checks MS correctly retransmits CC SETUP message, that was not acknowledged by UTRAN RLC Layer before the Handover, following completion of the handover to GSM cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			To trigger the UE to initialise an MO call
2	→		SETUP	SS does not Acknowledge it
3	SS			The SS starts the GSM cell and configure a dedicated channel SDCCH.
4	←		HANDOVER FROM UTRAN COMMANDGSM	Send on cell 1 (UTRAN cell) and the message indicates: the dedicated channel SDCCH.
5	UE			The UE accepts the handover command and switches to the GSM dedicated channel specified in the HANDOVER FROM UTRAN COMMAND-GSM
6	→		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	→		HANDOVER ACCESS	
9	→		HANDOVER ACCESS	
10	←		PHYSICAL INFORMATION	
11	→		SABM	
12	←		UA	
13	→		HANDOVER COMPLETE	The SS receives the message on the dedicated channel of GSM cell.
14	->		SETUP	The SS receives the message on the dedicated channel of GSM cell.
15	<-		CHANNEL RELEASE	

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.
- RRC 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 GSM message	Single GSM message
- Message	GSM HANDOVER COMMAND formatted as Variable Length BIT STRING without Length Indicator. 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 11.10-1 version 8.2.0 Release 1999

8.3.7.13.5 Test requirement

At step 14 the SS shall receive SETUP message on the dedicated channel of the GSM cell, and at step.

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.]

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29th July – 2nd August 2002

Tdoc T1-020584

3GPP TSG-T1 SIG Meeting #24
Yokohama, Japan, 29th – 31st July 2002

Tdoc T1S020543
(Revision of T1S020258)

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123-1** **CR** **308** ⌘ **rev** **-** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	New tests for radio bearers 38c, 56 and 58
Source:	⌘	Vodafone Group, Ericsson
Work item code:	⌘	TEI
Date:	⌘	01/08/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	The following radio bearers: 38c: Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. 56: Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. 58: Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH. were introduced into TS 34.108 at T1-Sig 21. The associated tests are required (they are the last tests remaining as Vodafone assignment in the 'Company commitments' paper, T1S-020118).
Summary of change:	⌘	Introduction of the testing of the establishment and data transfer of the configurations mentioned above.
Consequences if not approved:	⌘	Lack of test coverage which may lead to interworking situations.

Clauses affected:	⌘	(new) 14.2.38c, 14.2.56 and 14.2.58.

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
			X	Test specifications		

	X	O&M Specifications
Other comments:	⌘	Affects R99, REL-4 and REL-5.

[…]

14.2.38c Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:32 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.38c.1 Conformance requirement

See 14.2.4.1.

14.2.38c.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38c.

14.2.38c.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC16	UL_TFC1, UL_TFC16	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2, DL_TFC17	UL_TFC2, UL_TFC17	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3, DL_TFC18	UL_TFC3, UL_TFC18	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: No data RB6: No data RB7: No data RB8: 312
4	DL_TFC4, DL_TFC19	UL_TFC4, UL_TFC19	DL_TFC0, DL_TFC15, DL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC16, UL_TFC18, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
5	DL_TFC5, DL_TFC20	UL_TFC5, UL_TFC20	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5, UL_TFC15, UL_TFC17, UL_TFC18, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312
6	DL_TFC6, DL_TFC21	UL_TFC6, UL_TFC21	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: No data RB6: No data RB7: No data RB8: 632
7	DL_TFC7, DL_TFC22	UL_TFC7, UL_TFC22	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7, UL_TFC15, UL_TFC16, UL_TFC21, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 632	RB5: 39 RB6: No data RB7: No data RB8: 632
8	DL_TFC8, DL_TFC23	UL_TFC8, UL_TFC23	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8, UL_TFC15, UL_TFC17, UL_TFC21, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: 632
9	DL_TFC9, DL_TFC24	UL_TFC9, UL_TFC24	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 81 RB6: 103 RB7: 60 RB8: 952	RB5: No data RB6: No data RB7: No data RB8: 952
10	DL_TFC10, DL_TFC25	UL_TFC10, UL_TFC25	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10, UL_TFC15, UL_TFC16, UL_TFC24, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 952	RB5: 39 RB6: No data RB7: No data RB8: 952

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
11	DL_TFC11, DL_TFC26	UL_TFC11, UL_TFC26	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11, UL_TFC15, UL_TFC17, UL_TFC24, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952	RB5: 81 RB6: 103 RB7: 60 RB8: 952
12	DL_TFC12, DL_TFC27	UL_TFC12, UL_TFC27	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 81 RB6: 103 RB7: 60 RB8: 1272	RB5: No data RB6: No data RB7: No data RB8: 1272
13	DL_TFC13, DL_TFC28	UL_TFC13, UL_TFC28	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC13, UL_TFC15, UL_TFC16, UL_TFC27, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: 39 RB6: No data RB7: No data RB8: 1272
14	DL_TFC14, DL_TFC29	UL_TFC14, UL_TFC29	DL_TFC0, DL_TFC15, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC14, UL_TFC15, UL_TFC17, UL_TFC27, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: 1272

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).

14.2.38c.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

[…]

14.2.56 Interactive or background / UL:8 DL:8 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.56.1 Conformance requirement

See 14.2.4.1.

14.2.56.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.56.

14.2.56.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 + RB6 (2x8 kbps)	DCCH
TFS	TF0, bits	0x340	0x148
	TF1, bits	1x340	1x148

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

		RB5 + RB6 (2x8 kbps)	DCCH
TFS	TF0, bits	0x340	0x148
	TF1, bits	1x340	1x148

Downlink TFCS:

TFCI	(RB5+RB6, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC3	UL_TFC1, UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 312 RB6: 312	RB5: 312 RB6: no data
2	DL_TFC1, DL_TFC3	UL_TFC1, UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC2	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 312 RB6: 312	RB5: no data RB6: 312
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB5 and RB6: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the size of the payload size of the UL TF under test minus 8 bits (the size of 7 bit length indicator and expansion bit).						

14.2.56.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.
3. At step 15a and step 15b the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on RB6; and no data shall be received on RB5.
4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

[…]

14.2.58 Streaming / unknown / UL:16 DL:64 kbps / PS RAB + Interactive or background / UL:8 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH.

14.2.58.1 Conformance requirement

See 14.2.4.1.

14.2.58.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.58.

14.2.58.3 Method of test

See 14.1.2 for test procedure.

Uplink TFS:

	TFI	RB5 uplink (16 kbps, 20 ms TTI)	RB6 (8 kbps)	DCCH
TFS	TF0, bits	0x336	0x336	0x148
	TF1, bits	1x336	1x336	1x148

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF0, TF1, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF0, TF1)
UL_TFC5	(TF1, TF0, TF1)
UL_TFC6	(TF0, TF1, TF1)
UL_TFC7	(TF1, TF1, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps, 40 ms TTI)	RB6 (8 kbps)	DCCH
TFS	TF0, bits	0x656	0x336	0x148
	TF1, bits	1x656	1x336	1x148
	TF2, bits	2x656	N/A	N/A
	TF3, bits	4x656	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF0, TF0)
DL_TFC3	(TF3, TF0, TF0)
DL_TFC4	(TF0, TF1, TF0)
DL_TFC5	(TF1, TF1, TF0)
DL_TFC6	(TF2, TF1, TF0)
DL_TFC7	(TF3, TF1, TF0)
DL_TFC8	(TF0, TF0, TF1)
DL_TFC9	(TF1, TF0, TF1)
DL_TFC10	(TF2, TF0, TF1)
DL_TFC11	(TF3, TF0, TF1)
DL_TFC12	(TF0, TF1, TF1)
DL_TFC13	(TF1, TF1, TF1)
DL_TFC14	(TF2, TF1, TF1)
DL_TFC15	(TF3, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_TFC1, DL_TFC9	UL_TFC1, UL_TFC5	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 632 RB6: 312	RB5: 632 RB6: no data
2	DL_TFC2, DL_TFC10	UL_TFC1, UL_TFC5	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 632 RB6: 312	RB5: 1272 RB6: no data
3	DL_TFC3, DL_TFC11	UL_TFC1, UL_TFC5	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5	RB5: 632 RB6: 312	RB5: 2552 RB6: no data
4	DL_TFC4, DL_TFC12	UL_TFC2, UL_TFC6	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC6	RB5: 632 RB6: 312	RB5: no data RB6: 312
5	DL_TFC5, DL_TFC13	UL_TFC3, UL_TFC7	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6	RB5: 632 RB6: 312	RB5: 632 RB6: 312
6	DL_TFC6, DL_TFC14	UL_TFC3, UL_TFC7	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6	RB5: 632 RB6: 312	RB5: 1272 RB6: 312
7	DL_TFC7, DL_TFC15	UL_TFC3, UL_TFC7	DL_TFC0, DL_TFC8, UL_TFC0, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC5, UL_TFC6, UL_TFC7	RB5: 632 RB6: 312	RB5: 2552 RB6: 312

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). As the uplink TTI for RB5 is 20 ms while the downlink TTI is 40 ms then, to achieve continous data transmission in uplink the size of the uplink RLC SDU has been set such that it will be transmitted over two subsequent TTIs, i.e. UL RLC SDU size has been set to two times the payload size of the UL TF under test minus 8 bits (the size of a 7 bit length indicator and expansion bit).
RB6: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size has been set equal to the uplink TFS size minus 8 bits (the size of a 7 bit length indicator and expansion bit).

14.2.58.4 Test requirements

See 14.1.2 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15a and step 15b the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 15a and step 15b the UE shall return

   - for sub-test 1: RLC SDUs on RB5 having the same content as sent by the SS; and no data shall be received on RB6.

   - for sub-test 2 and 3: RLC SDUs on RB5 having the first 632 bits equal to the content of the test data sent by theSS in downlink; and no data shall be received on RB6.

   - for sub-test 4: RLC SDUs on RB6 having the same content as sent by the SS; and no data shall be received on RB5.

   - for sub-test 5: RLC SDUs on RB5 and RB6 having the same content as sent by the SS.

   - for sub-test 6 and 7: RLC SDUs on RB5 having the first 632 bits equal to the content of the test data sent by theSS in downlink; and RLC SDUs on RB6 having the same content as sent by the SS.

4. At step 15b the UE shall send at least one MEASUREMENT REPORT message.

[…]

3GPP TSG-T1 Meeting #16
Yokohama, Japan, 29 July – 2 August 2002

Tdoc T1-020608
(T1S020549)

CR-Form-v7

CHANGE REQUEST

⌘ **TS 34.123-1 CR 309** ⌘ **rev -** ⌘ Current version: **5.0.1** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to section 16.1.6 & 16.2.6: Addition of test of short message type 0 (CS/PS) R99 and REL-4
Source:	⌘	Vodafone Group
Work item code:	⌘	TEI
Date:	⌘	01/08/2002
Category:	⌘	**F**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	For SMS Type 0 there is currently no test existing for a R99 and REL-4 UE implementation. However, this feature is used by many network operators in order to get UE positioning data or to check whether an UE is 'on air' in the network. An UE receiving such a message shall behave according to the core specifications.
Summary of change:	⌘	Addition of a new test in section 16.1.6 (CS) and 16.2.6 (PS)
Consequences if not approved:	⌘	The UE is not tested according to this requirement and may show service affecting behaviour when receiving a Type 0 Short Message

Clauses affected:	⌘	Section 16.1.6 & 16.2.6, new test			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	TS 34.123-2
		N	Test specifications		
		Y	O&M Specifications		
Other comments:	⌘	Affects R99, REL-4			

16.1.6 Test of short message type 0 (R99 and REL-4 UE)

~~For further study.~~

16.1.6.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Circuit Switched mode. It is highly recommended that the UE discards the contents of the short message type 0.

This test shall apply to all R99 and REL-4 UEs supporting receipt of short messages in CS mode.

16.1.6.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but may discard its contents.

Note: It is highly recommended that the UE discards the type 0 short message. This means that the UE is able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not, the UE does not indicate the receipt of the type 0 short message to the user, and the message is not stored in the (U)SIM or ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.1.6.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE should discard its contents.

NOTE: failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the UE and the service centre.

16.1.6.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in MM-state "Idle, updated".

Related ICS/IXIT Statements

Support for Short Message MT/PP.

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

The SS sends a type 0 message by using the method described in step a) of section 16.1.1 but with the TPDU described in this section.

Maximum Duration of Test

1 minute

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			It is highly recommended that the UE discards the type 0 short message. This means that the UE is able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not, the UE does not indicate the receipt of the type 0 short message to the user, and the message is not stored in the (U)SIM or ME.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

Information element	Comment Value
TP-MIT	SMS-DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet "0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

[…]

16.2 Short message service point to point on PS mode

All of test cases in this clause are applied to the UE supported PS mode.

[…]

16.2.6 Test of short message type 0 (R99 and REL-4 UE)

~~For further study.~~

16.2.6.1 Definition and applicability

This tests that the UE correctly acknowledges the receipt of the short message type 0 to the SC in Packet Switched mode. It is highly recommended that the UE discards the contents of the short message type 0.

This test shall apply to all R99 and REL-4 UEs supporting receipt of short messages in PS mode.

16.2.6.2 Conformance requirement

When a mobile terminated message is type 0, the UE shall acknowledge receipt of the short message to the SC but may discard its contents.

Note: It is highly recommended that the UE discards the type 0 short message. This means that the UE is able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not, the UE does not indicate the receipt of the type 0 short message to the user, and the message is not stored in the (U)SIM or ME.

Reference(s)

3GPP TS 23.040, 9.2.3.9.

16.2.6.3 Test purpose

To verify that the UE will acknowledge receipt of the short message to the SC. The UE should discard its contents.

NOTE: failure of this test in a UE could cause it to reject a type 0 message when the network is trying to reach the UE. This could lead to unwanted repetitions between the UE and the service centre.

16.2.6.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

the UE shall be in GMM-state "GMM-REGISTERED";

Related ICS/IXIT Statements

Support for Short Message MT/PP.

The value of timer TC1M.

Foreseen Final State of UE

Idle, updated.

Test Procedure

The SS sends a type 0 message by using the method described in step a) of section 16.2.1 but with the TPDU described in this section.

Maximum Duration of Test

1 minute

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resource Connection	See 3GPP TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), type 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK TP-Protocol-Identifier (TP-PID).
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			It is highly recommended that the UE discards the type 0 short message. This means that the UE is able to receive the type 0 short message irrespective of whether there is memory available in the (U)SIM or ME or not, the UE does not indicate the receipt of the type 0 short message to the user, and the message is not stored in the (U)SIM or ME.

Specific Message Contents:

SMS-DELIVER TPDU (containing a type 0 message) (SS to UE):

Information element	Comment Value
TP-MIT	SMS-DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM"0"B
TP-SRI	no status report returned0
TP-OA	an international number coded E.164
TP-PID	Type 0: "01000000"B
TP-DCS	default alphabet “0000 0000"B
TP-SCTS	any legal value (cf. 3GPP TS 23.040)
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

[…]