Title: CRs (R'99 and Rel-4 Category A) to TS 25.133 (1)

Source TSG RAN WG4

Agenda item: 8.4.3

RAN4 Tdoc	Spec	CR	Title	Cat	Phase	Curr Ver	New Ver
R4-010885	25.133	126	Clarifications on TDD measurements and related accuracy requirements	F	Rel99	3.6.0	3.7.0
R4-011068	25.133	127	Clarifications on TDD measurements and related accuracy requirements	A	Rel-4	4.1.0	4.2.0
R4-010930	25.133	128	Handover delay correction	F	Rel99	3.6.0	3.7.0
R4-011069	25.133	129	Handover delay correction	А	Rel-4	4.1.0	4.2.0
R4-010934	25.133	130	Corrections to intra-frequency test case A.8.1.1	F	Rel99	3.6.0	3.7.0
R4-011071	25.133	131	Corrections to intra-frequency test case A.8.1.1	А	Rel-4	4.1.0	4.2.0
R4-010964	25.133	132	Cell Re-selection - requirement for Camped on Any Cell state	F	Rel99	3.6.0	3.7.0
R4-011072	25.133	133	Cell Re-selection - requirement for Camped on Any Cell state	А	Rel-4	4.1.0	4.2.0
R4-010980	25.133	134	FDD/FDD Hard Handover Testcase	F	Rel99	3.6.0	3.7.0
R4-011073	25.133	135	FDD/FDD Hard Handover Testcase	А	Rel-4	4.1.0	4.2.0
R4-010982	25.133	136	Success rates in test cases	F	Rel99	3.6.0	3.7.0
R4-011074	25.133	137	Success rates in test cases	А	Rel-4	4.1.0	4.2.0
R4-010983	25.133	138	FDD/GSM Handover test case	F	Rel99	3.6.0	3.7.0
R4-011075	25.133	139	FDD/GSM Handover test case	А	Rel-4	4.1.0	4.2.0
R4-011004	25.133	142	TFC selection in the UE	F	Rel99	3.6.0	3.7.0
R4-011064	25.133	143	TFC selection in the UE	А	Rel-4	4.1.0	4.2.0
R4-011012	25.133	144	Periodic and event triggered reporting of GSM cells in CELL_DCH	F	Rel99	3.6.0	3.7.0
R4-011065	25.133	145	Periodic and event triggered reporting of GSM cells in CELL_DCH	A	Rel-4	4.1.0	4.2.0

Edinburgh, Great Britain, 3rd - 7th September 2001

CHANGE REQUEST				
¥	25.133 CR 126 [#] ev - [#]	Current version: 3.6.0 [#]		
For <u>HELP</u> on us	ing this form, see bottom of this page or look at the	e pop-up text over the X symbols.		
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network				
Title: ೫	Clarifications on TDD measurements and related	accuracy requirements		
Source: ೫	RAN WG4			
Work item code: #		Date:		
	 F Use <u>one</u> 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 <u>TR 21.900</u>. 	Release: %Rel99Use oneof the following releases:2(GSM Phase 2)e)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)REL-4(Release 4)REL-5(Release 5)		
Reason for change: # Square brackets still in the requirement. Incorrect definition of side conditions.				
Summary of change: # Removal of square brackets. Clarification of the wording. Correction of definition.				
Consequences if not approved:	Misalignment between 25.123 and 25.133. R	Remaining square brackets.		
Clauses affected:	X			
Other specs affected:	# Other core specifications # Test specifications 0&M Specifications			
Other comments:	¥			

How to create CRs using this form:

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

8.1.2.4 TDD measurements

The requirements in this section apply only to UE supporting both TDD and FDD mode. In the CELL_DCH the UE shall continuously measure detected inter frequency TDD cells and search for new

inter frequency cells indicated in the measurement control information. In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap

pattern sequence with measurement purpose TDD measurement using the following combinations for TGL1, TGL2 and TGD:

Table 8.2

TGL1 [slots]	TGL2 [slots]	TGD [slots]
10	-	undefined
10	10	15269
14	7	15269

If reporting of the values for TGSN_proposed is requested by the network while P-CCPCH RSCP is measured by the UE, and this is supported by the UE, values for TGSN_proposed shall be extracted by use of the following formula and reported to the network together with the P-CCPCH RSCP results in the measurement report:

TGSN_proposed= FDD slot in which the starting point of the P-CCPCH slot of the monitored TDD cell was observed -1 slot

8.1.2.4.1 Identification of a new cell

The UE shall be able to identify a new detectable cell belonging to the monitored set within

$$T_{\text{identify TDD inter}} = Max \left\{ 5000, T_{\text{basic identify TDD inter}} \cdot \frac{T_{\text{Measurement Period TDD inter}}}{T_{\text{TDD inter}}} \cdot N_{Freq} \right\} ms$$

h

when P-CCPCH Ec/Io \geq -8 dB, SCH_Ec/Io \geq -13 dB and SCH_Ec/Ior is equally divided between primary synchronisation code and the sum of all secondary synchronisation codes, where the secondary synchronisation codes are also equally divided. When L3 filtering is used an additional delay can be expected.

where the received P-CCPCH E_c/I_o is defined as

$$\left(\frac{P - CCPCH _ E_c}{I_o}\right)_{in \ dB} = \left(\frac{P - CCPCH _ E_c}{I_{or}}\right)_{in \ dB} - \frac{I_o}{\left(\hat{I}_{or}\right)}_{in \ dB}$$

and the received SCH E_c/I_o is defined as

$$\left(\frac{SCH_E_c}{I_o}\right)_{in\ dB} = \left(\frac{SCH_E_c}{I_{or}}\right)_{in\ dB} - \frac{I_o}{(\hat{I}_{or})}_{in\ dB}$$

8.1.2.4.2 Measurement period

When transmission gaps as previously described are scheduled for TDD inter frequency measurements the UE physical layer shall be capable of reporting measurements to higher layers with measurement accuracy as specified in sub-clause 9.1.11 with measurement period given by

$$\mathbf{T}_{\text{measurement inter}} = Max \left\{ \mathbf{T}_{\text{Measurement_Period TDD Inter}}, \mathbf{T}_{\text{basic measurement TDD inter}} \cdot \frac{\mathbf{T}_{\text{Measurement_Period TDD Inter}}}{\mathbf{T}_{\text{TDD Inter}}} \cdot N_{Freq} \right\} ms$$

 $T_{Measurement_Period TDD inter} = 480 \text{ ms.}$ The period used for calculating the measurement period $T_{measurement_TDD inter}$ for inter frequency RSCP measurements.

,	Γ_{TDD} inter:	This is the minimum time that is available for inter frequency measurements , during the period $T_{Measurement_Period\ TDD\ inter}$ with an arbitrarily chosen timing. The minimum time is calculated by using the actual idle length within the transmission gap as given in the table 11 of Annex B in TS 25.212 and by assuming 2*500 µs for implementation margin.
,	$\Gamma_{ m basic_identify_TDD,in}$	ter ={800} ms. This is the time period used in the inter frequency equation where the maximum allowed time for the UE to identify a new TDD cell is defined.
,	$\Gamma_{ m basic_measurement_TI}$	$_{\text{DD inter}} = 50200$ ms. This is the time period used in the equation for defining the measurement period for inter frequency RSCP measurements.
]	N _{Freq} :	Number of TDD frequencies indicated in the inter frequency measurement control information.

8.1.2.4.3 Periodic Reporting

Reported measurements in periodically triggered measurement reports shall meet the requirements in section 9.

8.1.2.4.4 Event Triggered Reporting

Reported measurements in event triggered measurement reports shall meet the requirements in section 9. The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled. The measurement reporting delay is defined as the time between any event that will trigger a measurement report, until the UE starts to transmit the measurement report over the Uu interface. This requirement assumes that the measurement report is not delayed by other RRC signalling on the DCCH... This measurement reporting delay excludes a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH. The delay uncertainty is twice the TTI of the uplink DCCH.

The event triggered measurement reporting delay, measured without L3 filtering shall be less than T $_{identify TDD inter}$ defined in Section 8.1.2.4.1 When L3 filtering is used an additional delay can be expected.

If a cell has been detectable at least for the time period $T_{identify_TDD inter}$ and then enters the reporting range, the event triggered measurement reporting delay shall be less than $T_{Measurement_Period TDD Inter_provided the timing to}$ that cell has not changed more than +/- 32 chips while transmission gap has not been available and when the L3 filter has not been used.

NEXT changed section

9.1.11 P-CCPCH RSCP

NOTE: This measurement is used for handover between UTRA FDD and UTRA TDD.

The requirements in this section are valid for terminals supporting this capability. The measurement period for CELL_DCH state can be found in sub clause 8.1.2.4. The measurement period for CELL_FACH state can be found in sub clause 8.4.2.4.

9.1.11.1 Absolute accuracy requirements

The accuracy requirement in table 9.31 is valid under the following conditions:

• P-CCPCH_RSCP \geq -102 dBm.

 \Box | Io P CCPCH_Ec/Ior| \leq [20] dB.

•
$$I_o |_{in \ dB} - \left(\frac{P - CCPCH - E_c}{I_{or}}\right)|_{in \ dB} \le 8dB$$

Parameter	Unit	Accura	Conditions	
Farameter	Unit	Normal conditions	Extreme conditions	lo [dBm]
	dBm	± 6	± 9	-9470
P-CCPCH_RSCP	dBm	± 8	± 11	-9450

Table 9.31: P-CCPCH_RSCP Inter frequency absolute accuracy
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Edinburgh, Great Britain, 3rd - 7th September 2001

CHANGE REQUEST						
ж	<mark>25.133</mark>	CR 127	æ e	v _ ¥	Current vers	sion: 4.1.0 [#]
For <u>HELP</u> on us	sing this for	rm, see bottom	of this page	or look at the	e pop-up text	over the # symbols.
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network						
Title: ೫	Clarificati	ons on TDD me	easurements	and related	accuracy rec	quirements
Source: #	RAN WG	4				
Work item code: ℜ					Date: ೫	2001-09-03
Category: ₩	F (cor A (cor B (add C (fun D (edi Detailed ex	the following cate rection) responds to a co dition of feature), ctional modification torial modification blanations of the 3GPP <u>TR 21.900</u>	rrection in an ion of feature) n) above catego		2	Rel-4 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)
Reason for change: # Corresponding REL-4 CAT A CR to document R4-010885 proposed for REL-99. Square brackets still in the requirement. Incorrect definition of side conditions.						
Summary of chang	e:	oval of square	brackets. Cl	arification of	the wording.	Correction of definition.
Consequences if not approved:		nsistency betwee 23 and 25.133.				lignment between
Clauses affected:	೫ <mark>8.1.2</mark>	2.4; 9.1.11				
Other specs affected:	Te	ther core specification est specification &M Specification	าร	ж		
Other comments:	ж					

How to create CRs using this form:

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

8.1.2.4 TDD measurements

The requirements in this section apply only to UE supporting both TDD and FDD mode. In the CELL_DCH the UE shall continuously measure detected inter frequency TDD cells and search for new

inter frequency cells indicated in the measurement control information. In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap

pattern sequence with measurement purpose TDD measurement using the following combinations for TGL1, TGL2 and TGD:

Table 8.2

TGL1 [slots]	TGL2 [slots]	TGD [slots]
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If reporting of the values for TGSN_proposed is requested by the network while P-CCPCH RSCP is measured by the UE, and this is supported by the UE, values for TGSN_proposed shall be extracted by use of the following formula and reported to the network together with the P-CCPCH RSCP results in the measurement report:

TGSN_proposed= FDD slot in which the starting point of the P-CCPCH slot of the monitored TDD cell was observed -1 slot

8.1.2.4.1 Identification of a new cell

The UE shall be able to identify a new detectable cell belonging to the monitored set within

$$T_{\text{identify TDD inter}} = Max \left\{ 5000, T_{\text{basic identify TDD inter}} \cdot \frac{T_{\text{Measurement Period TDD inter}}}{T_{\text{TDD inter}}} \cdot N_{Freq} \right\} ms$$

h

when P-CCPCH Ec/Io \geq -8 dB, SCH_Ec/Io \geq -13 dB and SCH_Ec/Ior is equally divided between primary synchronisation code and the sum of all secondary synchronisation codes, where the secondary synchronisation codes are also equally divided. When L3 filtering is used an additional delay can be expected.

where the received P-CCPCH E_c/I_o is defined as

$$\left(\frac{P - CCPCH _ E_c}{I_o}\right)_{in \ dB} = \left(\frac{P - CCPCH _ E_c}{I_{or}}\right)_{in \ dB} - \frac{I_o}{\left(\hat{I}_{or}\right)}_{in \ dB}$$

and the received SCH E_c/I_o is defined as

$$\left(\frac{SCH_E_c}{I_o}\right)_{in\ dB} = \left(\frac{SCH_E_c}{I_{or}}\right)_{in\ dB} - \frac{I_o}{(\hat{I}_{or})}_{in\ dB}$$

8.1.2.4.2 Measurement period

When transmission gaps as previously described are scheduled for TDD inter frequency measurements the UE physical layer shall be capable of reporting measurements to higher layers with measurement accuracy as specified in sub-clause 9.1.11 with measurement period given by

$$\mathbf{T}_{\text{measurement inter}} = Max \left\{ \mathbf{T}_{\text{Measurement_Period TDD Inter}}, \mathbf{T}_{\text{basic measurement TDD inter}} \cdot \frac{\mathbf{T}_{\text{Measurement_Period TDD Inter}}}{\mathbf{T}_{\text{TDD Inter}}} \cdot N_{Freq} \right\} ms$$

 $T_{Measurement_Period TDD inter} = 480 \text{ ms.}$ The period used for calculating the measurement period $T_{measurement_TDD inter}$ for inter frequency RSCP measurements.

$T_{TDD inter:}$	This is the minimum time that is available for inter frequency measurements , during the period $T_{Measurement_Period\ TDD\ inter}$ with an arbitrarily chosen timing. The minimum time is calculated by using the actual idle length within the transmission gap as given in the table 11 of Annex B in TS 25.212 and by assuming 2*500 µs for implementation margin.
$T_{basic_identify_TDD,in}$	ter ={800} ms. This is the time period used in the inter frequency equation where the maximum allowed time for the UE to identify a new TDD cell is defined.
$T_{basic_measurement_Th}$	$_{\text{DD inter}} = 50200$ ms. This is the time period used in the equation for defining the measurement period for inter frequency RSCP measurements.
N _{Freq} :	Number of TDD frequencies indicated in the inter frequency measurement control information.

8.1.2.4.3 Periodic Reporting

Reported measurements in periodically triggered measurement reports shall meet the requirements in section 9.

8.1.2.4.4 Event Triggered Reporting

Reported measurements in event triggered measurement reports shall meet the requirements in section 9. The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled. The measurement reporting delay is defined as the time between any event that will trigger a measurement report, until the UE starts to transmit the measurement report over the Uu interface. This requirement assumes that the measurement report is not delayed by other RRC signalling on the DCCH... This measurement reporting delay excludes a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH. The delay uncertainty is twice the TTI of the uplink DCCH.

The event triggered measurement reporting delay, measured without L3 filtering shall be less than T $_{identify TDD inter}$ defined in Section 8.1.2.4.1 When L3 filtering is used an additional delay can be expected.

If a cell has been detectable at least for the time period $T_{identify_TDD inter}$ and then enters the reporting range, the event triggered measurement reporting delay shall be less than $T_{Measurement_Period TDD Inter_provided the timing to}$ that cell has not changed more than +/- 32 chips while transmission gap has not been available and when the L3 filter has not been used.

NEXT changed section

9.1.11 P-CCPCH RSCP

NOTE: This measurement is used for handover between UTRA FDD and UTRA TDD.

The requirements in this section are valid for terminals supporting this capability. The measurement period for CELL_DCH state can be found in sub clause 8.1.2.4. The measurement period for CELL_FACH state can be found in sub clause 8.4.2.4.

9.1.11.1 Absolute accuracy requirements

The accuracy requirement in table 9.31 is valid under the following conditions:

• P-CCPCH_RSCP \geq -102 dBm.

 \Box | Io P CCPCH_Ec/Ior| \leq [20] dB.

•
$$I_o |_{in \ dB} - \left(\frac{P - CCPCH - E_c}{I_{or}}\right)|_{in \ dB} \le 8dB$$

Parameter	Unit	Accura	Conditions	
Farameter	Unit	Normal conditions	Extreme conditions	lo [dBm]
	dBm	± 6	± 9	-9470
P-CCPCH_RSCP	dBm	± 8	± 11	-9450

Table 9.31: P-CCPCH_RSCP Inter frequency absolute accuracy
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Other comments: #

R4-010930

Edinburgh, Great Britain, 3rd - 7th September 2001

CR-Form-v3				
CHANGE REQUEST				
ж	25.133 CR 128 * rev _ * Current vers	ion: 3.6.0 [#]		
For <u>HELP</u> on ι	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: ೫	Handover delay correction			
Source: #	RAN WG4			
Work item code: Ж	ይ Date: ዙ	04-07-2001		
Category: ೫	េ <mark>F</mark> Release: អ	Rel99		
Use one of the following categories:Use one of the following releases:F (essential correction)2A (corresponds to a correction in an earlier release)R96B (Addition of feature),R97C (Functional modification of feature)R98D (Editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5				
Reason for change: * The Tdoc R4-010753 corrected the hard handover interruption time to include the SFN decoding of the target cell in case compressed mode is used for measuring inter-frequency cells. However, the SFN of the target cell will be decoded after receiving handover command when ever blind handover is made i.e. the UE performs handover to an unknown cell. Hence, the interruption time should also be corrected for an unknown cell even if compressed mode is not required for inter-frequency measurements.				
Summary of change: # T _{interrupt1} is correct to SFN decoding for an unknown cell.				
Consequences if not approved:	* The T _{interrupt1} requirement for an unknown cell is contra T _{interrupt2} requirement.	dictory with the		
Clauses affected:	¥ 5.2.2.2			
Other specs affected:	% Other core specifications % Test specifications 0&M Specifications			

5.2 FDD/FDD Hard Handover

5.2.1 Introduction

The hard handover procedure is initiated from UTRAN with a RRC message that implies a hard handover, see TS 25.331 section 8.3.5.

5.2.2 Requirements

5.2.2.1 Hard handover delay

Procedure delay for all procedures, that can command a hard handover, are specified in [TS25.331 section 11.5.2].

When the UE receives a RRC message implying hard handover with the activation time "now" or earlier than than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCCH at the designated activation time.

where:

 $D_{handover}$ equals the RRC procedure delay defined in TS25.331 Section 13.5.2 plus the interruption time stated in section 5.2.2.2.

5.2.2.2 Interruption time

The interruption time, i.e. the time between the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCCH, is depending on whether the target cell is known for the UE or not.

If intra-frequency hard handover is commanded or inter-frequency hard handover is commanded when the UE does not need compressed mode to perform inter-frequency measurements, the interruption time shall be less than T_{interrupt1}

 $T_{interrupt1} = T_{IU} + 40 + 20 * KC + 150 + 00 ms$

where

 T_{IU} is the interruption uncertainty when changing the timing from the old to the new cell. T_{IU} can be up to one frame (10 ms).

KC is the number of known target cells in the message, and

OC is the number of target cells that are not known in the message.

Note: The figure 40 ms is the time required for measuring the downlink DPCCH channel as stated in TS 25.214 section 4.3.1.2.

In the interruption requirement T_{interrupt1} a cell is known if either or both of the following conditions are true:

- the UE has had radio links connected to the cell in the previous (old) active set
- the cell has been measured by the UE during the last 5 seconds and the SFN of the cell has been decoded by the UE.

If inter-frequency hard handover is commanded and the UE needs compressed mode to perform inter-frequency measurements, the interruption time shall be less than $T_{interrupt2}$

 $T_{interrupt2} = T_{IU} + 40 + 50 * KC + 150 * OC ms$

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In the interruption requirement $T_{\mbox{interrupt2}}$ a cell is known if:

- the cell has been measured by the UE during the last 5 seconds.

The phase reference is the primary CPICH.

Other comments: #

R4-011069

Edinburgh, Great Britain, 3rd - 7th September 2001

[CR-Form-v3										
	CHANGE REQUEST											
ж	25.133 CR 129 * rev _ * Curren	t version: 4.1.0 [#]										
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: ដ	Handover delay correction											
Source: ೫	RAN WG4											
Work item code: %	Da	te: ೫ 04-09-2001										
Category: #	Release	se: ೫ Rel-4										
	F (essential correction)2A (corresponds to a correction in an earlier release)RSB (Addition of feature),RSC (Functional modification of feature)RSD (Editorial modification)RSDetailed explanations of the above categories canRS	97 (Release 1997) 98 (Release 1998)										
Reason for change	Reason for change: * The Tdoc R4-010753 corrected the hard handover interruption time to include the SFN decoding of the target cell in case compressed mode is used for measuring inter-frequency cells. However, the SFN of the target cell will be decoded after receiving handover command when ever blind handover is made i.e. the UE performs handover to an unknown cell. Hence, the interruption time should also be corrected for an unknown cell even if compressed mode is not required for inter-frequency measurements.											
Summary of chang	ge:	n cell.										
Consequences if not approved:	The T _{interrupt1} requirement for an unknown cell is on T _{interrupt2} requirement.	contradictory with the										
Clauses affected:	¥ 5.2.2.2											
Other specs affected:	 Conter core specifications Test specifications O&M Specifications 											

5.2 FDD/FDD Hard Handover

5.2.1 Introduction

The hard handover procedure is initiated from UTRAN with a RRC message that implies a hard handover, see TS 25.331 section 8.3.5.

5.2.2 Requirements

5.2.2.1 Hard handover delay

Procedure delay for all procedures, that can command a hard handover, are specified in [TS25.331 section 11.5.2].

When the UE receives a RRC message implying hard handover with the activation time "now" or earlier than than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCCH at the designated activation time.

where:

 $D_{handover}$ equals the RRC procedure delay defined in TS25.331 Section 13.5.2 plus the interruption time stated in section 5.2.2.2.

5.2.2.2 Interruption time

The interruption time, i.e. the time between the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCCH, is depending on whether the target cell is known for the UE or not.

If intra-frequency hard handover is commanded or inter-frequency hard handover is commanded when the UE does not need compressed mode to perform inter-frequency measurements, the interruption time shall be less than T_{interrupt1}

 $T_{interrupt1} = T_{IU} + 40 + 20 * KC + 150 + 00 * OC ms$

where

 T_{IU} is the interruption uncertainty when changing the timing from the old to the new cell. T_{IU} can be up to one frame (10 ms).

KC is the number of known target cells in the message, and

OC is the number of target cells that are not known in the message.

Note: The figure 40 ms is the time required for measuring the downlink DPCCH channel as stated in TS 25.214 section 4.3.1.2.

In the interruption requirement T_{interrupt1} a cell is known if either or both of the following conditions are true:

- the UE has had radio links connected to the cell in the previous (old) active set
- the cell has been measured by the UE during the last 5 seconds and the SFN of the cell has been decoded by the UE.

If inter-frequency hard handover is commanded and the UE needs compressed mode to perform inter-frequency measurements, the interruption time shall be less than $T_{interrupt2}$

 $T_{interrupt2} = T_{IU} + 40 + 50 * KC + 150 * OC ms$

In the interruption requirement $T_{\mbox{interrupt2}}$ a cell is known if:

- the cell has been measured by the UE during the last 5 seconds.

The phase reference is the primary CPICH.

R4-010934

Edinburgh, Great Britain, 3rd - 7th September 2001

CHANGE REQUEST											CR-Form-v3		
ж	25	. <mark>133</mark>	CR	130		ж rev	-	ж	Current	versi	ion:	3.6.0) ^ж
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the # symbols.													
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network													
Title: #	Col	rrectio	ns to In	tra-frequ	lency	test ca	se A.8	.1.1					
Source: ¥	RA RA	<mark>N WG</mark>	4										
Work item code: ₩	B								Dat	е: Ж	05-	<mark>07-2001</mark>	
Category: ¥	F								Releas	е: Ж	Rel	99	
	Use one of the following categories:Use one of the following releases:F (essential correction)2A (corresponds to a correction in an earlier release)R96B (Addition of feature),R97C (Functional modification of feature)R98D (Editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5										2) 5) 7) 3)		
Reason for chang	e: #	th - Tl	erefore he rate	this kin of corre	d of re ct eve	porting nts is r	is also ot give	o not en eitl		e test	case	or in th	and e start of cally used.
Summary of chan	ge: ೫			rting of of corre					has beer	n rem	iovec	1	
Consequences if not approved:	ж	of the requi	e test is iremen	s missing	g. The 25.133	succe: 8. All th	ss rate ese mi	is de issing	erived bas details r	sed o	n the	e genera	cess rate I accuracy ion when

Clauses affected:	# A.8.1.1.1 and A.8.1.1.2
Other specs affected:	# Other core specifications # X Test specifications TS34.121 O&M Specifications TS34.121
Other comments:	¥

A.8 UE Measurements Procedures

A.8.1 FDD intra frequency measurements

A.8.1.1 Event triggered reporting in AWGN propagation conditions

A.8.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event and that the measurement accuracy of the CPICH_Ec/Io and SFN_CFN observed timed difference between Cell 1 and Cell 2 are within the defined limits. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.1 and A.8.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. During time duration T1, the UE shall not have any timing information of cell 2.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24	Signalled during time T1.
T1	S	5	
T2	S	5	
Т3	S	5	

Table A.8.1: General test parameters for Event triggered reporting in AWGN propagation conditions

Table A.8.2: Cell specific test parameters for Event triggered reporting in AWGN propagation conditions

Parameter	Unit	Cell 1				Cell 2				
		T1	T2	Т3	T1	T2	T3			
CPICH_Ec/lor	dB		-10			-10				
PCCPCH_Ec/lor	dB		-12			-12				
SCH_Ec/lor	dB		-12			-12				
PICH_Ec/lor	dB		-15			-15				
DPCH_Ec/lor	dB		-17			N/A				
OCNS			-1.049			-0.941				
\hat{I}_{or}/I_{oc}	dB	0	6.97	0	-Infinity	5.97	-Infinity			
I _{oc}	dBm/3.84 MHz	-70								
CPICH_Ec/lo	dB	-13	-13	-13	-Infinity	-14	-Infinity			
Propagation Condition		AWGN								

2

A.8.1.1.2 Test Requirements

The UE shall send one Event 1A triggered measurement report, with a measurement reporting delay less than 800 ms from the beginning of time period T2.

3

The UE shall send one Event 1B triggered measurement report, with a measurement reporting delay less than 200 ms from the beginning of time period T3.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

R4-011071

Edinburgh, Great Britain, 3rd - 7th September 2001

	CR-Form-v:										
CHANGE REQUEST											
ж	25.133 CR 131 * rev - * Current version: 4.1.0 *										
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: ೫	Corrections to Intra-frequency test case A.8.1.1										
Source: ដ	RAN WG4										
Work item code: ₩	Date: 策 01-09-2001										
Category: Ж	A Release: # Rel-4										
	Use one of the following categories:Use one of the following releases:F (essential correction)2A (corresponds to a correction in an earlier release)R96B (Addition of feature),R97C (Functional modification of feature)R98D (Editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5										
Reason for change	 # - This test case does not verify the accuracy of the reported quantity and therefore this kind of reporting is also not needed. - The rate of correct events is not given either in the test case or in the start of 										
	Annex A. Section A.2.1 only says that a success rate of 90% is typically used.										
Summary of chang	 The reporting of measurement quantities has been removed The rate of correct reporting is included 										
Consequences if not approved:	* The test case contains unnessary reporting and signalling and the success rate of the test is missing. The success rate is derived based on the general accuracy requirements of TS25.133. All these missing details may cause confusion when T1 RF creates their test cases based on TS25.133.										

Clauses affected:	ж <mark>А.8.</mark>	1.1.1 and A.8.1.1.2		
Other specs affected:	X	Other core specifications Fest specifications D&M Specifications	Ħ	TS34.121
Other comments:	ж			

A.8 UE Measurements Procedures

A.8.1 FDD intra frequency measurements

A.8.1.1 Event triggered reporting in AWGN propagation conditions

A.8.1.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event and that the measurement accuracy of the CPICH_Ec/Io and SFN_CFN observed timed difference between Cell 1 and Cell 2 are within the defined limits. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.1 and A.8.2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. During time duration T1, the UE shall not have any timing information of cell 2.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24	Signalled during time T1.
T1	S	5	
T2	S	5	
Т3	S	5	

Table A.8.1: General test parameters for Event triggered reporting in AWGN propagation conditions

Table A.8.2: Cell specific test parameters for Event triggered reporting in AWGN propagation conditions

Parameter	Unit	Cell 1				Cell 2			
		T1	T2	Т3	T1	T2	T3		
CPICH_Ec/lor	dB		-10			-10			
PCCPCH_Ec/lor	dB		-12			-12			
SCH_Ec/lor	dB		-12			-12			
PICH_Ec/lor	dB		-15		-15				
DPCH_Ec/lor	dB		-17			N/A			
OCNS			-1.049		-0.941				
\hat{I}_{or}/I_{oc}	dB	0	6.97	0	-Infinity	5.97	-Infinity		
I _{oc}	dBm/3.84 MHz	-70							
CPICH_Ec/lo	dB	-13	-13	-13	-Infinity	-14	-Infinity		
Propagation Condition		AWGN							

A.8.1.1.2 Test Requirements

The UE shall send one Event 1A triggered measurement report, with a measurement reporting delay less than 800 ms from the beginning of time period T2.

The UE shall send one Event 1B triggered measurement report, with a measurement reporting delay less than 200 ms from the beginning of time period T3.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

R4-010964

Edinburgh, Great Britain, 3rd - 7th September 2001

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		CHAN	GE RE	QUEST								
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For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.												
Proposed change	affects: ೫	(U)SIM	ME/UE X	Radio Acc	ess Network	X Core Ne	twork					
Title: ೫	Cell Re-S	<mark>election – requi</mark>	rements for	Camped on A	Any Cell state)						
Source: #	RAN WG	4										
Work item code: ℜ	8				Date: ೫	12 July 2001						
Category: ₩	Use <u>one</u> of F (cor A (col B (adu C (fur D (edu Detailed ex	the following cate rection) responds to a cor dition of feature), ctional modification torial modification planations of the a 3GPP <u>TR 21.900</u>	rection in an e on of feature)) above categor	earlier release)	Use <u>one</u> of th 2 (R96 (R97 (R98 (R99 (REL-4 (Rel99 he following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	ases:					
Reason for change	Req	equirements for uirements for Ce ny Cell state (TS	ell Re-selecti		-		Camped					
Summary of chang	ge:♯ Add	requirements fo	r Camped o	n Any Cell sta	ate for Cell Re	e-selection						
Consequences if not approved:	# Non	uniform UE beh	aviour for ce	ell re-selection	n in Camped	on Any Cell st	ate.					
Clauses affected:	<mark>፝ 4.2.</mark> ′	l										
Other specs affected:	X T	ther core specifi est specification &M Specification	S	* TS34.12	1							
Other comments:	ж											

How to create CRs using this form:

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

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

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4.2 Cell Re-selection

4.2.1 Introduction

The cell reselection procedure allows the UE to select a more suitable cell and camp on it.

When the UE is in <u>either Camped Normally</u> state or <u>Camped on Any Cell state</u> on a FDD cell, <u>the</u> UE shall attempt to detect, synchronise, and monitor intra-frequency, inter-frequency and inter-RAT cells indicated in the measurement control system information of the serving cell. UE measurement activity is also controlled by measurement rules defined in TS25.304, allowing the UE to limit its measurement activity if certain conditions are fulfilled.

R4-011072

Edinburgh, Great Britain, 3rd - 7th September 2001

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		CHAN	IGE REC	QUEST								
^ж Т	<mark>S25.133</mark>	CR <mark>133</mark>	ж ev	- [#] (Current versio	^{n:} 4.1.0 [#]						
For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.												
Proposed change	affects: ೫	(U)SIM	ME/UE X	Radio Acc	ess Network	X Core Network						
Title: ೫	Cell Re-S	election – requi	rements for C	Camped on A	Any Cell state							
Source: #	RAN WG	4										
Work item code: ೫	8				Date: ೫	12 August 2001						
Category: अ	Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed ex	the following cate rection) responds to a cor dition of feature), ctional modification torial modification planations of the a 3GPP <u>TR 21.900</u>	rrection in an e on of feature)) above categori	arlier release)	2 (C R96 (F R97 (F R98 (F R99 (F REL-4 (F	Rel-4 e following releases: GSM Phase 2) Release 1996) Release 1997) Release 1998) Release 1999) Release 4) Release 5)						
Reason for change	Requ	equirements for uirements for Ce ny Cell state (T	ell Re-selection			TS25.133 Normally and Camped						
Summary of chang	ge: ₩ Add	requirements fo	or Camped on	Any Cell sta	ate for Cell Re	-selection						
Consequences if not approved:	# Non-	uniform UE beh	naviour for ce	l re-selectior	n in Camped o	on Any Cell state.						
Clauses affected:	೫ <mark>4.2.1</mark>											
Other specs affected:	X Te	ther core specif est specification &M Specificatio	S	# TS34.12	1							
Other comments:	ж											

How to create CRs using this form:

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

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

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4.2 Cell Re-selection

4.2.1 Introduction

The cell reselection procedure allows the UE to select a more suitable cell and camp on it.

When the UE is in <u>either Camped Normally</u> state or <u>Camped on Any Cell state</u> on a FDD cell, <u>the</u> UE shall attempt to detect, synchronise, and monitor intra-frequency, inter-frequency and inter-RAT cells indicated in the measurement control system information of the serving cell. UE measurement activity is also controlled by measurement rules defined in TS25.304, allowing the UE to limit its measurement activity if certain conditions are fulfilled.

R4-010980

Edinburgh, Great Britain, 3rd - 7th September 2001

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	CHANGE REQUEST										
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For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.											
Proposed change a	ffects: ೫	(U)SIM	ME/UE X	Radio Aco	cess Network	Core Ne	etwork				
Title: ೫	FDD/FDD	Hard Handove	er Testcase								
Source: ೫	RAN WG4	1									
Work item code: #					Date: ೫	2001-06-29					
	F (corr A (corr B (ada C (fund D (edit Detailed exp	the following cate ection) responds to a col lition of feature), ctional modification orial modification planations of the 3GPP <u>TR 21.900</u>	rrection in an ea on of feature) n) above categorie		2 R96 R97 R98 R99 REL-4	Rel99 the following rele (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)					
Reason for change:	TSG	nterruption time T WG1 shall fo be complete.									
Summary of change	e: # Testo	cases for Intra f	requency and	Inter freque	ency hard har	ndover is adde	ed.				
Consequences if not approved:		capability of the e tested.	UE to do a ha	rd handov	er according t	the specification	on will				
Clauses affected:	Ж <mark>А.5.</mark> 2										
Other specs affected:	X Te	her core specif est specification &M Specificatio	S	34.121							
Other comments:	ж										

How to create CRs using this form:

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

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

A.5.2 FDD/FDD Hard Handover

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.2.2.1 and 5.2.2.2 exists.

A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.x1 and A.5.x2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time at the beginning of T3 with a new active cell, cell 2.

Parameter		<u>Unit</u>	Value	Comment
DCH parame	eters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Contro	<u>ol</u>		On	
Target quality	<u>y value on</u>	BLER	<u>0.01</u>	
Initial	Active cell		Cell 1	
conditions	<u>Neighbourin</u> <u>g cell</u>		Cell 2	
Final condition	Active cell		Cell 2	
Reporting rai	nge	dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting deactivation threshold			<u>0</u>	Applicable for event 1A
Time to Trigger m		ms	<u>0</u>	
Filter coefficient			<u>0</u>	
<u>T1</u>		<u>S</u>	<u>5</u>	
<u>T2</u>		<u>s</u>	<u>5</u>	
<u>T3</u>		<u>s</u>	<u>5</u>	

Table A.5.x1: General test parameters for Handover to intra-frequency cell

Table A.5.x2: Cell specific test parameters for Handover to intra-frequency cell

Parameter	<u>Unit</u>		<u>Cell 1</u>			Cell 2			
		<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>		
CPICH_Ec/lor	dB		<u>-10</u>			<u>-10</u>			
PCCPCH_Ec/lor	<u>dB</u>		<u>-12</u>			<u>-12</u>			
SCH_Ec/lor	dB		<u>-12</u>			<u>-12</u>			
PICH_Ec/lor	<u>dB</u>		<u>-15</u>			<u>-15</u>			
DPCH_Ec/lor	dB	Note1	Note1	Note1	N/A	N/A	Note1		
<u>OCNS</u>		Note2	Note2	Note2	<u>-0.941</u>	<u>-0.941</u>	Note2		
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>	<u>6.</u>	<u>97</u>	-Infinity	<u>5.</u>	<u>97</u>		
I _{oc}	<u>dBm/</u> <u>3.84</u> <u>MHz</u>			<u>-</u>	<u>70</u>				
CPICH_Ec/lo	<u>dB</u>	<u>-13</u> <u>-Infinity</u> <u>-14</u>							
Propagation Condition				AW	<u>/GN</u>				

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to L.

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL DCH state in the dual carrier case reported in section 5.2.2.1.

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables A.5.y1 and A.5.y2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time at beginning of T2 with one active cell, cell <u>2.</u>

3

Dava	matar	Unit	Value	Comment
	meter	<u>Unit</u>	Value	Comment
DCH parameters			DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
			<u>12.2 kbps</u>	
Power Cont	<u>rol</u>		<u>On</u>	
Target quali	ty value on	BLER	<u>0.01</u>	
DTCH				
Compressed	d mode		A.22 set 1	As specified in TS 25.101 section A.5.
Initial	Active cell		Cell 1	
conditions	Neighbour		Cell 2	
	cell			
Final	Active cell		Cell 2	
conditions				
Threshold n	on used	<u>dB</u>	<u>-18</u>	Absolute Ec/I0 threshold for event 2C
frequency				
Reporting ra	inge	<u>dB</u>	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used	frequency		1	Applicable for event 2C
Reporting de	Reporting deactivation		0	Applicable for event 1A
threshold				
Time to Trigger		ms	<u>0</u>	
Filter coeffic	ient		<u>0</u>	
<u>T1</u>		<u>S</u>	<u>10</u>	
<u>T2</u>		S	5	

Table A.5.y1: General test parameters for Handover to inter-frequency cell

TableA.5.y2: Cell Specific parameters for Handover to inter-frequency cell

Parameter	<u>Unit</u>	Cell 1			<u>Ce</u>	<u>II 2</u>
		<u>T1</u>	<u>T2</u>	<u>T1</u>		<u>T2</u>
UTRA RF Channel			Channel 1		Chan	inel 2
<u>Number</u>						
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>		<u>-10</u>		
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		
SCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		
PICH_Ec/lor	<u>dB</u>	<u>-15</u>		<u>-15</u>		
DPCH_Ec/lor	<u>dB</u>	Note1		<u>N/A</u>		Note1
<u>OCNS</u>		Note 2		<u>-0.9</u>	<u>41</u>	Note 2
\hat{I}_{or}/I_{oc}	dB	<u>0</u>	<mark>0</mark>	<mark>-1.8</mark>		<mark>-1.8</mark>
I _{oc}	<u>dBm/3.84</u> <u>MHz</u>			<u>-70</u>		
CPICH_Ec/lo	<u>dB</u>	<u>-13</u>	<u>-13</u>	<u>-14</u>		<u>-14</u>
Propagation Condition				<u>AWGN</u>		

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 90 ms from the beginning of time period T2.

The rate of correct handovers observed during repeated tests shall be at least 90%.

R4-011073

Edinburgh, Great Britain, 3rd - 7th September 2001

	CHANGE REQUEST					
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x x	25133 CR 135 [#] ev - [#] Current version: 4.1.0 [#]					
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:	# FDD/FDD Hard Handover Testcase					
Source:	第 RAN WG4					
Work item code:	쁐 Date: 쁐 2001-08-30					
Category:	A Release: % Rel-4 Use one of the following categories: Use one of the following releases: 2 F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) Detailed explanations of the above categories can be found in 3GPP TR 21.900. REL-5 (Release 5)					
Reason for chan	ge: # The interruption time for hard handover delay must be tested. If we claim that TSG T WG1 shall follow the annex in 25.133 when defining the tests this annex must be complete.					
Summary of cha	nge: # Testcases for Intra frequency and Inter frequency hard handover is added.					
Consequences i not approved:	The capability of the UE to do a hard handover according the specification will not be tested.					
Clauses affected	: ፝፝ ^ዘ A.5.2					
Other specs affected:	# Other core specifications # X Test specifications 34.121 O&M Specifications 34.121					
Other comments	: 新 This is a Rel-4 CR corresponding to the Rel 99 CR in R4-010980.					

How to create CRs using this form:

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

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

FDD/FDD Hard Handover A.5.2

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.2.2.1 and 5.2.2.2 exists.

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A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.x1 and A.5.x2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time at the beginning of T3 with a new active cell, cell 2.

Para	<u>meter</u>	<u>Unit</u>	Value	Comment
DCH parameters			DL Reference Measurement	As specified in TS 25.101 section A.3.1
			Channel 12.2 kbps	
Power Contro			<u>On</u>	
Target quality	value on	BLER	<u>0.01</u>	
<u>DTCH</u>				
Initial	Active cell		<u>Cell 1</u>	
conditions	<u>Neighbourin</u>		<u>Cell 2</u>	
	<u>g cell</u>			
<u>Final</u>	Active cell		<u>Cell 2</u>	
condition				
Reporting range	<u>ge</u>	<u>dB</u>	<u>3</u>	Applicable for event 1A and 1B
<u>Hysteresis</u>		<u>dB</u>	<u>0</u>	
<u>W</u>			<u>1</u>	Applicable for event 1A and 1B
Reporting dea	orting deactivation		<u>0</u>	Applicable for event 1A
threshold				
Time to Trigger		<u>ms</u>	0	
Filter coefficient			0	
<u>T1</u>		<u>s</u>	5	
<u>T2</u>		<u>s</u>	5	
<u>T3</u>		<u>s</u>	5	

Table A.5.x1: General test parameters for Handover to intra-frequency cell

Table A.5.x2: Cell specific test parameters for Handover to intra-frequency cell

Parameter	<u>Unit</u>		<u>Cell 1</u>			Cell 2		
		<u>T1</u>	<u>T2</u>	<u>T3</u>	<u>T1</u>	<u>T2</u>	<u>T3</u>	
CPICH_Ec/lor	dB		<u>-10</u>			<u>-10</u>		
PCCPCH_Ec/lor	<u>dB</u>		<u>-12</u>			<u>-12</u>		
SCH_Ec/lor	<u>dB</u>		<u>-12</u>			<u>-12</u>		
PICH_Ec/lor	<u>dB</u>		-15			<u>-15</u>		
DPCH_Ec/lor	dB	Note1	Note1	Note1	N/A	<u>N/A</u>	Note1	
<u>OCNS</u>		Note2	Note2	Note2	<u>-0.941</u>	<u>-0.941</u>	Note2	
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>	<u>6.</u>	<u>.97</u>	<u>-Infinity</u>	<u>5.</u>	<u>97</u>	
I _{oc}	<u>dBm/</u> <u>3.84</u> <u>MHz</u>			<u>-</u>	<u>70</u>			
CPICH_Ec/lo	<u>dB</u>	<u>-13</u> <u>-Infinity</u> <u>-14</u>						
Propagation Condition				AW	<u>/GN</u>			

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{ar}

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL DCH state in the dual carrier case reported in section 5.2.2.1.

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables A.5.y1 and A.5.y2 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

<u>UTRAN shall send a Physical Channel reconfiguration with activation time at beginning of T2 with one active cell, cell</u> 2.

Para	meter	Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
<u></u>	<u></u>		12.2 kbps	
Power Cont	rol		<u>On</u>	
Target quali	t <u>y value on</u>	BLER	<u>0.01</u>	
DTCH				
Compressed	1		<u>A.22 set 1</u>	As specified in TS 25.101 section A.5.
Initial	Active cell		Cell 1	
conditions	<u>Neighbour</u> cell		<u>Cell 2</u>	
Final conditions	Active cell		Cell 2	
Threshold ne	on used	<u>dB</u>	<u>-18</u>	Absolute Ec/I0 threshold for event 2C
Reporting ra	inge	dB	4	Applicable for event 1A
Hysteresis		<u>dB</u>	<u>0</u>	
W			1	Applicable for event 1A
W non-used	n-used frequency		1	Applicable for event 2C
Reporting deactivation			<u>0</u>	Applicable for event 1A
threshold				
Time to Trigger		<u>ms</u>	0	
Filter coeffic	ient		<u>0</u>	
<u>T1</u>		<u>S</u>	<u>10</u>	
<u>T2</u>		<u>S</u>	<u>5</u>	

Table A.5.y1: General test parameters for Handover to inter-frequency cell

TableA.5.y2: Cell Specific parameters for Handover to inter-frequency cell

Parameter	<u>Unit</u>	Cell 1			<u>Ce</u>	<u> 2</u>
		<u>T1</u>	<u>T2</u>	<u>T1</u>		<u>T2</u>
UTRA RF Channel			Channel 1		Chan	nel 2
Number		-				
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>		<u>-10</u>		
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		
SCH_Ec/lor	<u>dB</u>	<u>-12</u>		<u>-12</u>		
PICH_Ec/lor	<u>dB</u>	<u>-15</u>		<u>-15</u>		
DPCH_Ec/lor	<u>dB</u>	Note1		<u>N/A</u>		Note1
<u>OCNS</u>		Note 2		<u>-0.94</u>	<u>1</u>	Note 2
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>	<u>0</u>	<u>-1.8</u>		<u>-1.8</u>
I _{oc}	<u>dBm/3.84</u> <u>MHz</u>			<u>-70</u>		
CPICH_Ec/lo	<u>dB</u>	<u>-13</u>	<u>-13</u>	<u>-14</u>		<u>-14</u>
Propagation Condition				<u>AWGN</u>		

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or.}

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 90 ms from the beginning of time period T2.

The rate of correct handovers observed during repeated tests shall be at least 90%.

R4-010982

Edinburgh, Great Britain, 3rd - 7th September 2001

	CR-Form-v3						
	CHANGE REQUEST						
ж <mark>Т</mark>	S25.133 CR 136 * rev - * Current version: 3.6.0 *						
For <u>HELP</u> on	using this form, see bottom of this page or look at the pop-up text over the $#$ symbols.						
Proposed change affects: # (U)SIM ME/UE X Radio Access Network Core Network							
Title: a	Success rates in test cases						
Source: ೫	RAN WG4						
Work item code:⅌	『 Date: 発 <u>11-07-2001</u>						
Category: ೫	ি F Release: ೫ Rel99						
	Use one of the following categories:Use one of the following releases:F (essential correction)2A (corresponds to a correction in an earlier release)R96B (Addition of feature),R97C (Functional modification of feature)R98D (Editorial modification)R99D tetailed explanations of the above categories canREL-4be found in 3GPP TR 21.900.REL-5						
Reason for chang	e: # The success rates of the tests are not given either in the test cases or in the start of Annex A. Section A.2.1 only says that a success rate of 90% is typically used.						
Summary of chan	ge: Success rates are included into the test cases. The success rate of 90 % is used in all AWGN channel test cases. The inter-frequency test case in fading propagation conditions has not been separately analysed and since fading channel causes significant variation into the signal level, success rate in this case has still left open.						
Consequences if not approved:	* The success rates of the tests are derived based on the general requirements of TS25.133 and the behaviour of the used radio propagation condition. If these success rates are missing, it might be difficult for T1 RF to find out the correct success rate for each test.						
Clauses affected:	 A.4.2.1.2, A.4.2.2.2, A.4.4.2, A.5.6.1.2, A.5.6.2.2, A.5.7.1.2, A.5.7.2.2, A.8.1.2.2, A.8.1.3.2, A.8.1.3.2, A.8.1.2.1.2 and A.8.1.2.2.2 						
Other specs affected:	% Other core specifications % X Test specifications TS34.121 O&M Specifications TS34.121						
Other comments:	ж						

A.4 Idle Mode

A.4.1 Cell selection

(void)

A.4.2 Cell Re-Selection

Two scenarios are considered:

- Scenario 1: Single carrier case
- Scenario 2: Multi carrier case

For each of them a test is proposed.

NOTE: Existing scenarios cover only requirements in section 4.2.2.2. More scenarios, covering requirements in section 4.2.2.1, will be added later.

A.4.2.1 Scenario 1: Single carrier case

A.4.2.1.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in the single carrier case reported in section 4.2.2.

This scenario implies the presence of 1 carrier and 6 cells as given in tables A.4.1 and A.4.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

	Parameter	Unit	Value	Comment		
Initial	Active cell		Cell2			
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6			
Final condition	Active cell		Cell1			
	Access Service Class (ASC#0) - Persistence value				1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	DRX cycle length		1.28	The value shall be used for all cells in the test.		
Τ1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.		
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.		

Table A.4.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter	Unit	Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Channel 1		Channel 1		Channel 1		Channel 1		Channel 1		Channel 1		
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941		
\hat{I}_{or}/I_{oc}	dB	7.3 10.27		10.27	10.27 7.3		0.27		0.27		0.27		0.27	
I _{oc}	dBm / 3.84 MHz	-70												
CPICH_Ec/lo	dB	-16	-13	-13 -16 -23		-23		-23		-23		-23		
Propagation Condition		AWGN												
Cell_selection_and_ reselection_quality_m easure		CPICH E₀/N₀		CPICH E _c /N ₀		CPICH	CPICH E _c /N ₀ CPIC		E _c /N ₀	CPICH E _c /N ₀		CPICH E _c /N ₀		
Qqualmin	dB	-20		-20		-20		-20		-20		-20		
Qrxlevmin	dBm	-115		-115		-115		-115		-115		-115		
UE_TXPWR_MAX_ RACH	dB	21		21		21		21		21		21		
Qoffset2 _{s, n}	dB	C1, C2: 0 C1, C3: 0 C1, C4: 0 C1, C5: 0 C1, C6: 0		C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0		C4, 0 C4, 0 C4, 0	C4, C1: 0 C5, C1: 0 C4, C2: 0 C5, C2: 0 C4, C3: 0 C5, C3: 0 C4, C5: 0 C5, C4: 0 C4, C6: 0 C5, C6: 0		C2: 0 C3: 0 C4: 0	C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0		
Qhyst2	dB	0		0		0		0		0		0		
PENALTY_TIME	s	0		0		0		0		0		0		
TEMPORARY_OFFS ET2	dB	0		0		0		0		0		0		
Treselection	S	0		0		0		0		0		0		
Sintrasearch	dB	not sent		not sent		not sent		not sent		not sent		not	not sent	

A.4.2.1.2 **Test Requirements**

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

3

TevaluateFDD	See Table 4.1 in section 4.2.2.
T _{SI}	Maximum repetition period of relevant system info blocks that needs to be received
	by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.4.2.2 Scenario 2: Multi carrier case

A.4.2.2.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in the multi carrier case reported in section 4.2.2.

This scenario implies the presence of 2 carriers and 6 cells as given in tables A.4.3 and A.4.4. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

Table A.4.3: General test parameters for Cell Re-selection in Multi carrier case

F	Parameter		Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Ser - Persistenc	vice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle I	ength	S	1.28	The value shall be used for all cells in the test.
	T1	S	30	T1 need to be defined so that cell re-selection reaction time is taken into account.
	T2	S	15	T2 need to be defined so that cell re-selection reaction time is taken into account.

Parameter	Unit	Ce	Cell 1 Cell 2 Cell 3		Cell 4		Cell 5		Cell 6				
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Chan	nel 1	Cha	nnel 2	Char	nel 1	Chan	nel 1	Char	nnel 2	Char	nnel 2
CPICH_Ec/lor	dB	-1	0	-	-10		10	-1	10	-	10	-	10
PCCPCH_Ec/lor	dB	-1	2	-	-12	-'	12	-1	2	-	12	-	12
SCH_Ec/lor	dB		2		-12		12		2		12		12
PICH_Ec/lor	dB		5		-15		15		15		15		15
OCNS_Ec/lor	dB	-0.9	941	-0.	.941	-0.9	941	-0.9	941	-0.	941	-0.	941
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I _{oc}	dBm / 3.84 MHz						-1	70					
CPICH_Ec/lo	dB	-16	-13	-13	-16	-:	20	-2	20	-	20	-:	20
Propagation Condition							AW	/GN					
Cell_selection_and_ reselection_quality_m easure		CPICH	I E _c /N ₀	CPIC	H E _c ∕N₀	CPICH	Η E _c /N₀	CPICH	I E _c /N ₀	CPIC	H E _c /N ₀	CPICH	Η E _c /N₀
Qqualmin	dB	-2	0	-	20	-2	20	-20		-20		-2	20
Qrxlevmin	dBm	-1	15	-1	115	-1	15	-1	15	-1	15	-1	15
UE_TXPWR_MAX_ RACH	dB	2	1	:	21	2	:1	2	1	2	21	2	:1
Qoffset2 _{s, n}	dB	C1, 0 C1, 0 C1, 0 C1, 0 C1, 0	C3: 0 C4: 0 C5: 0	C2, C2, C2,	C1: 0 C3: 0 C4: 0 C5: 0 C6: 0	C3, 0 C3, 0 C3, 0	C1: 0 C2: 0 C4: 0 C5: 0 C6: 0	C4, 0 C4, 0 C4, 0 C4, 0 C4, 0 C4, 0	C2: 0 C3: 0 C5: 0	C5, C5, C5,	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, C6, C6,	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0
Qhyst2	dB	C)		0	(0	C)		0		0
PENALTY_TIME	S	C)		0	(D	C)		0		D
TEMPORARY_OFFS ET	dB	C)		0	(0	()		0		D
Treselection	S	C)		0	(0	C)		0		D
Sintrasearch	dB	nots	sent	not	sent	not	sent	not	sent	not	sent	not	sent
Sintersearch	dB	not			sent		sent	not			sent		sent

A.4.2.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

TevaluateFDD	See Table 4.1 in section 4.2.2.
Tsi	Maximum repetition period of relevant system info blocks that needs to be received by
	the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.4.3 UTRAN to GSM Cell Re-Selection

A.4.3.1 Scenario 1

A.4.3.1.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell re-selection delay reported in section 4.3.2.1.

This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected Test parameters are given in Table, A.4.5, A.4.6, A.4.7.

Table A.4.5: General test parameters for UTRAN to GSM Cell Re-selection

Pa	arameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
T1		S		T1 need to be defined so that cell re-selection reaction time is taken into account.
T2		S		T2 need to be defined so that cell re-selection reaction time is taken into account.

Parameter	Unit	Cell 1 (UTRA)
		T1	T2
UTRA RF Channel Number		Channel 1	
CPICH_Ec/lor	dB	-10	
PCCPCH_Ec/lor	dB	-12	
SCH_Ec/lor	dB	-12	
PICH_Ec/lor	dB	-15	
OCNS_Ec/lor	dB	-0.941	
\hat{I}_{or}/I_{oc}	dB	10.3	7.3
I _{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/lo	dB	-13	-16
CPICH_RSCP	dBm	[L1]	[L2]
Propagation Condition		AWGN	
Cell_selection_and_ reselection_quality_measure		CPICH Ed	N ₀
Qqualmin	dB	[]	
Qrxlevmin	dBm	[]	
UE_TXPWR_MAX_RACH	dBm	[]	
Qoffset1 _{s, n}	dB	C1, C2: []	
Qhyst1	dB	[]	
PENALTY_TIME	s	C2: []	
TEMP_OFFSET1	dB	C2:[]	
Treselection	S	[]	
Ssearch _{RAT}	dB	[]	

Table A.4.6: Cell re-selection UTRAN to GSM cell case (cell 1)

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Table A.4.7: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell	2 (GSM)
		T1	T2
Absolute RF Channel Number		ARFC	N 1
RXLEV	dBm	-70	-60
RXLEV_ACCESS_MIN	dBm	[]	
MS_TXPWR_MAX_CCH	dBm	[]	

A.4.3.1.2 **Test Requirements**

The requirements reported in section 4.3.2.1 shall be verified in more than [90%] of the cases.

FDD/TDD cell re-selection A.4.4

Test Purpose and Environment A.4.4.1

This test is to verify the requirement for the FDD/TDD cell re-selection delay reported in section 4.2.2.

This scenario implies the presence of 1 FDD and 1 TDD cell as given in Table A.4.8 and A.4.9.

The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304.

For this test environment the ranking/mapping function indicated in the broadcast of cell 1 shall be in such a way as to enable the UE to evaluate that the FDD cell 1 is better ranked as the TDD cell 2 during T1 and the TDD cell 2 is better ranked than the FDD cell 1, indicating a cell re-selection according to section 4.2.2.4 during T2.

Cell 1 and cell 2 shall belong to different Location Areas.

Table A.4.8: General test parameters for the FDD/TDD cell re-selection

	Parameter		Value	Comment
Initial	Active cell		Cell1	FDD cell
condition	Neighbour cells		Cell2	TDD cell
Final condition	Active cell		Cell2	
Access	Service Class (ASC#0)			Selected so that no additional
-	- Persistence value		1	delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle length		S	1.28	The value shall be used for all cells in the test.
T1		S	15	Cell 1 better ranked than cell 2
	T2	S	15	Cell2 better ranked than cell 1

Parameter	Unit	Cel		Ce	ll 2		
Timeslot Number		n.a	n.a.	()	8	3
		T 1	T 2	T1	T2	T 1	T 2
UTRA RF Channel Number		Chanı	nel 1		Char	nel 2	
CPICH_Ec/lor	dB	-10	-10	n.	a.	n.	a.
PCCPCH_Ec/lor	dB	-12	-12	-3	-3		
SCH_Ec/lor	dB	-12	-12	-9	-9	-9	-9
SCH_t _{offset}		n.a.	n.a.	0	0	0	0
PICH_Ec/lor		-15	-15			-3	-3
OCNS	dB	-0,941	-0,941	-4,28	-4,28	-4,28	-4,28
\hat{I}_{or}/I_{oc}	dB	3	-2	-2	3	-2	3
I _{oc}	dBm/3. 84 MHz		-7(0			
CPICH_RSCP	dBm	-77	-82	n.	a.	n.	a.
PCCPCH_RSCP	dBm	n.a.	n.a.	-75	-70		
Cell_reselection_and		CPICH_	RSCP				
quality _measure							
Treselection	S	0		()		
Propagation Condition		AWGN	AWGN			'GN	

Table A.4.9: FDD/TDD cell re-selection

NOTE: The purpose of this test case is to evaluate the delay of the FDD/TDD re-selection process, it is not intended to give reasonable values for a FDD/TDD cell re-selection.

A.4.4.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the RRC CONNECTION REQUEST message to perform a Location Registration on cell 2.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE:

The cell re-selection delay can be expressed as: $T_{evaluateTDD} + T_{SI}$, where:

 $T_{evaluateTDD:}$ A DRX cycle length of 1280ms is assumed for this test case, this leads to a $T_{evaluateTDD}$ of 6.4s according to Table 4.1 in section 4.2.2.7.

 $T_{SI:}$ Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

NEXT MODIFIED SECTIONS

A.5.6 Cell Re-selection in CELL_PCH

A.5.6.1 One frequency present in the neighbour list

A.5.6.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL_PCH state in section 5.6.2.

The test parameters are given in Table A5.5 and A5.6. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

	Parameter		Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	DRX cycle length		1.28	The value shall be used for all cells in the test.
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
Τ2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit	Ce	ell 1	Cel	12	Cel	3	Ce	II 4	Ce	ell 5	Cel	16
		T1	T2	T1	T2	T1	T2	T1	T2	T1	Т2	T1	T2
UTRA RF Channel Number		Channe	el 1	Channe	el 1	Chann	el 1	Chanr	nel 1	Chann	el 1	Chann	iel 1
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941	
\hat{I}_{or}/I_{oc}	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27	
I _{oc}	dBm/ 3.84MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23	
Propagation Condition							AW	GN					
Cell_selection_and_ reselection_quality_ measure		CPICH	E _c /N ₀	CPICH	E _c /N ₀	CPICH E _c /N ₀	ł	CPICH	IE₀/N₀	CPICH	IE₀/N₀	CPICH E _c /N ₀	ł
Qqualmin	dB	-2	20	-2	0	-2	0	-2	20	-:	20	-2	0
Qrxlevmin	dBm	-1	15	-1	15	-11	5	-1	15	-1	15	-11	15
UE_TXPWR_ MAX_RACH	dBm	2	21	2	1	2'	1	2	:1	2	21	2	1
Qoffset2 _{s, n}	dB	C1, C1, C1,	C1, C2: 0 C2, C1: 0 C1, C3: 0 C2, C3: 0 C1, C4: 0 C2, C4: 0 C1, C5: 0 C2, C5: 0 C1, C6: 0 C2, C6: 0		C3, C C3, C C3, C	C3, C1: 0 C4, C1: 0 C3, C2: 0 C4, C2: 0 C3, C4: 0 C4, C3: 0 C3, C5: 0 C4, C5: 0 C3, C6: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C C6, C C6, C C6, C C6, C	C2: 0 C3: 0 C4: 0		
Qhyst2	dB	· · · · · · · · · · · · · · · · · · ·	0	C		0		· · · · ·)		0	0	
PENALTY_TIME	S		0	C)	0		())		0	0)
TEMPORARY_OFF SET	dB		0	C)	0		0			0	0	I
Treselection	S		0	C)	0		(C		0	0	1
Sintrasearch	dB	not	sent	not s	sent	not s	ent	not	sent	not	sent	not s	sent

Table A.5.6: Cell specific test parameters for Cell re-selection in CELL_PCH state

A.5.6.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the CELL UPDATE message with cause value "cell reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

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NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD:} See section 5.6.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.6.2 Two frequencies present in the neighbour list

A.5.6.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL_PCH state in section 5.6.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

The test parameters are given in Table A.5.7 and A.5.8

Table A.5.7: General test parameters for Cell Re-selection in CELL_PCH

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Se - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	length	S	1.28	The value shall be used for all cells in the test.
T1		S	30	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit	1		1				1		1		1	
Parameter	Unit	Ce	1	Ce	ell 2	Cel	13	Ce	II 4	Cell	5	Ce	ell 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	Т2
UTRA RF Channel Number		Chanr	nel 1	Chan	nel 2	Chann	el 1	Chanr	nel 1	Channel	2	Chanr	nel 2
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.94	1	-0.941		-0.941		-0.941		-0.941	
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I _{oc}	dBm/3.8 4 MHz	-70	-70										
CPICH_Ec/lo	dB	-16	-13	-13	-16	-20		-20		-20		-20	
Propagation Condition							ŀ	AWGN					
Cell_selection_ and_reselection_ quality_measure		CPICH E _c /N ₀	1	CPIC E _c /N ₀		CPICH E _c /N ₀	ł	CPICH E _c /N ₀		CPICH E _c /N ₀		CPICH E _c /N ₀	
Qqualmin	dB	-2	0	-	20	-2	0	-20		-20		-20	
Qrxlevmin	dBm	-1	15	-1	15	-11	5	-115		-115		-115	
UE_TXPWR_ MAX_RACH	dBm	2	1	2	21	2'	1	21		21		21	
Qoffset2 _{s, n}	dB	C1, 0 C1, 0 C1, 0	C1, C2: 0 C2, C1: 0 C1, C3: 0 C2, C3: 0 C1, C4: 0 C2, C4: 0 C1, C5: 0 C2, C5: 0 C1, C6: 0 C2, C6: 0		C3, C C3, C C3, C C3, C C3, C	2: 0 4: 0 5: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C5: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0		
Qhyst2	dB	C	0 0		0		()	0			0	
PENALTY_TIME	S	C	0 0		0		(C	0			0	
TEMPORARY_OF FSET	dB	C)	0		0		(C	0		0	
Treselection	S	C	0		0	0		0		0			0
Sintrasearch	dB	not s	sent	not	sent	not s	ent	not	sent	not s	ent	not	sent
Sintersearch	dB	not s	sent	not	sent	not s	ent	not	sent	not s	ent	not	sent

Table A.5.8: Cell specific test parameters for Cell re-selection in CELL_PCH state

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A.5.6.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the CELL UPDATE message with cause value "cell reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

 $T_{evaluateFDD}$: See section 5.6.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.7 Cell Re-selection in URA_PCH

A.5.7.1 One frequency present in the neighbour list

A.5.7.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in URA_PCH state in section 5.7.2.

The test parameters are given in Table A.5.9 and A.5.10. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Cells possible for re-selection shall belong to different UTRAN Registration Areas (URA).

Table A.5.9: General test parameters for	or Cell Re-selection in URA_PCH
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	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Sel - Persisten	rvice Class (ASC#0) ce value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	length	S	1.28	The value shall be used for all cells in the test.
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit												
		Ce	11 1	Cel	12	Cel	3	Ce	11 4	Ce	ell 5	Cel	6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channe	el 1	Channe	el 1	Chann	el 1	Chanr	nel 1	Chann	nel 1	Chann	el 1
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941	
\hat{I}_{or}/I_{oc}	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27	
I _{oc}	dBm/3.84 MHz	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23	
Propagation Condition							AW	'GN					
Cell_selection_and_ reselection_quality_ measure		CPICH	E _c /N ₀	CPICH	E _c /N ₀	CPICH E _c /N ₀	ł	CPICH	HE _c /N ₀	CPICH	IE₀/N₀	CPICH E _c /N ₀	ł
Qqualmin	dB	-2	20	-2	0	-2	0	-2	20	-:	20	-2	0
Qrxlevmin	dBm	-1	15	-11	15	-11	5	-1	15	-1	15	-11	5
UE_TXPWR_ MAX_RACH	dBm	2	21	2	1	21	1	2	21	2	21	2	1
Qoffset2 _{s, n}	dB	C1, 0 C1, 0 C1, 0	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, 0 C2, 0 C2, 0 C2, 0 C2, 0 C2, 0	C3: 0 C4: 0 C5: 0	C3, C C3, C C3, C C3, C C3, C C3, C	2: 0 4: 0 5: 0	C4, C4, C4,	C1: 0 C2: 0 C3: 0 C5: 0 C6: 0	C5, C5, C5,	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, C C6, C C6, C C6, C C6, C	2: 0 3: 0 4: 0
Qhyst2	dB	(0	C		0		(0		0	0	
PENALTY_TIME	S	(0	C)	0			0		0	0	
TEMPORARY_OFF SET	dB		0	C)	0			0		0	0	
Treselection	S	(0	C)	0			0		0	0	_
Sintrasearch	dB	not	sent	not s	sent	not s	ent	not	sent	not	sent	not s	ent

Table A.5.10: Cell specific test parameters for Cell re-selection in URA_PCH state

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A.5.7.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the URA UPDATE message with cause value "URA reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

 $T_{evaluateFDD}$: See section 5.7.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.7.2 Two frequencies present in the neighbour list

A.5.7.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in URA_PCH state in section 5.7.2.

The test parameters are given in Table A5.11 and A5.12. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Cells possible for re-selection shall belong to different UTRAN Registration Areas (URA).

	Parameter	Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Se - Persisten	rvice Class (ASC#0) ice value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	length	s	1.28	The value shall be used for all cells in the test.
T1		S	30	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Table A.5.11: General test parameters for Cell Re-selection in URA_PCH

Devenueter	11	1		r		r		1				1	
Parameter	Unit	Cel	11	Ce	ell 2	Cel	13	Ce	II 4	Cel	5	Ce	ell 6
		T1	T2	T1	Т2	T1	T2	T1	T2	T1	Т2	T1	Т2
UTRA RF Channel Number		Chanr	iel 1	Chan	nel 2	Chann	iel 1	Chanr	nel 1	Channel	2	Chanr	nel 2
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.94	1	-0.941		-0.941		-0.941		-0.941	
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I _{oc}	dBm/3.8 4 MHz	-70	-70										
CPICH_Ec/lo	dB	-16	-13	-13	-16	-20		-20		-20		-20	
Propagation Condition							ŀ	AWGN					
Cell_selection_ and_reselection_ quality_measure		CPICH E _c /N ₀	ł	CPIC E _c /N ₀		CPICH E _c /N ₀	ł	CPICH E _c /N ₀		CPICH E _c /N ₀		CPICH E _c /N ₀	
Qqualmin	dB	-2	0	-:	20	-2	0	-20		-20		-20	
Qrxlevmin	dBm	-11	15	-1	15	-11	5	-115		-115		-115	
UE_TXPWR_ MAX_RACH	dBm	2	1	2	21	2	1	21		21		21	
Qoffset2 _{s, n}	dB	C1, C C1, C C1, C	C1, C2: 0 C2, C1: 0 C1, C3: 0 C2, C3: 0 C1, C4: 0 C2, C4: 0 C1, C5: 0 C2, C5: 0 C1, C6: 0 C2, C6: 0		C3, C C3, C C3, C C3, C C3, C	2: 0 24: 0 5: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0		
Qhyst2	dB	C	0 0		0		()	0			0	
PENALTY_TIME	S	C	0 0		0		()	0			0	
TEMPORARY_OF FSET	dB	C)	0		0		(C	0			0
Treselection	S	0		1	0	0		0		0			0
Sintrasearch	dB	not s	sent	not	sent	not s	sent	not	sent	not s	ent	not	sent
Sintersearch	dB	not s	sent	not	sent	not s	sent	not	sent	not s	ent	not	sent

Table A.5.12: Cell specific test parameters for Cell re-selection in URA_PCH state

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A.5.7.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending URA UPDATE message with cause value "URA reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD}: See section 5.7.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Parameter	Unit	Value	Comment
DCH Parameters		DL Reference measurement channel 12.2 kbps	As specified in TS 25.101, section A.3.1
Power Control		On	
Active cell		Cell 1	
N313	Frames	20	
N315	Frames	20	
T313	Second s	0	
Τ _{SI}	ms	1280	Maximum repetition period of all relevant system information blocks that needs to be received by the UE to camp on a cell. For information on the system information blocks that needs to be received by the UE, see TS 25.331.
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2 included in monitored set		Included	
Reporting frequency	Second s	4	
T1		10	
T2		6	

Table A.6.1 General test parameters for RRC re-establishment delay, Test 1

Parameter	Unit	Ce	ll 1	Ce	ell 2	
		T1	T2	T1	T2	
Cell Frequency	ChNr		1		1	
CPICH_Ec/lor	dB	-1	10	-	10	
PCCPCH_Ec/lor	dB	-1	2	-	12	
SCH_Ec/lor	dB	-1	2	-	12	
PICH_Ec/lor	dB	-1	5	-15		
DCH_Ec/lor	dB	-17	-Inf	Not applicable		
OCNS_Ec/lor	dB	-1.049	-0.941	-0.941		
\hat{I}_{or}/I_{oc}	dB	2,	39	4,39		
I _{oc}	dBm/ 3.84 MHz					
CPICH_Ec/lo	dB	-1	5	-13		
Propagation Condition			AW	GN		

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Table A.6.3 General test parameters for RRC re-establishment delay, Test 2

Parameter	Unit	Value	Comment
DCH Parameters		DL Reference measurement channel 12.2 kbps	As specified in TS 25.101, section A.3.1
Power Control		On	
Active cell		Cell 1	
N313	Frames	20	
N315	Frames	20	
T313	Seconds	0	
Τ _{SI}	ms	1280	Maximum repetition period of all relevant system information blocks that needs to be received by the UE to camp on a cell. For information on the system information blocks that needs to be received by the UE, see TS 25.331.
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2 included in monitored set		Not Included	
Reporting frequency	Seconds	4	
T1		10	
T2		6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	C	ell 1	Cel	12	
		T1	T2	T1	T2	
Cell Frequency	ChNr		1	2		
CPICH_Ec/lor	dB	-	·10	-1	0	
PCCPCH_Ec/lor	dB	-	·12	-1	2	
SCH_Ec/lor	dB	-	·12	-1	2	
PICH_Ec/lor	dB	-	·15	-15		
DCH_Ec/lor	dB	-17	-Inf	Not applicable		
OCNS_Ec/lor	dB	-1.049	-0.941	-0.9	41	
\hat{I}_{or}/I_{oc}	dB	-3	3,35	0,0	2	
I _{oc}	dBm/ 3.84 MHz	-70				
CPICH_Ec/lo	dB	-15 -13				
Propagation Condition			A	WGN		

A.6.1.2 Test Requirements

Test 1

RRC re-establishment delay shall be less than 1630 ms.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

Test 2

RRC re-establishment delay shall be less than 3930 ms.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NEXT MODIFIED SECTIONS

A.8.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition

A.8.1.2.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of events. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.3 and A.8.4. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A, 1C and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
		12.2 kbps	
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Replacement		0	Applicable for event 1C
activation threshold			
Reporting		0	Applicable for event 1A
deactivation			
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		32	
size			
T1	S	10	
T2	S	10	
Т3	S	5	
T4	S	10	

Table A.8.3: General test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit		Ce	ll 1		Cell 2				Cell3			
		T1	T2	T3	T4	T1	T2	Т3	T4	T1	T2	Т3	T4
CPICH_Ec/lor	dB	-10					-1	0		-10			
PCCPCH_Ec/ lor	dB		-12			-12			-12				
SCH_Ec/lor	dB		-1	2			-1	2		-12			
PICH_Ec/lor	dB		-15				-1	5		-15			
DPCH_Ec/lor	dB		-1	7		N/A			N/A				
OCNS_Ec/lor	dB		-1.0	049		-0.941			-0.941				
\hat{I}_{or}/I_{oc}	dB	6.97	6.93	5.97	6.12	-Inf	9.43	6.97	7.62	5.97	6.93	-Inf	5.62
I _{oc}	dBm/ 3.84 MHz		-85										
CPICH_Ec/lo	dB	-13	-16	-14	-15.5	-Inf	-13.5	-13	-14	-14	-16	-Inf	-16
Propagation Condition							AWGN						

Table A.8.4: Cell specific test parameters for Event triggered reporting of multiple neighbours in AWGN propagation condition

A.8.1.2.2 Test Requirements

- a) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 800 ms from the beginning of time period T1.
- b) The UE may send one Event 1C triggered measurement report for Cell3 after the beginning of the time period T1.
- c) The UE shall send one Event 1C triggered measurement report for Cell2, with a measurement reporting delay less than 800 ms from the beginning of time period T2.
- d) The UE shall send one Event 1A triggered measurement report for Cell2, with a measurement reporting delay less than 800 ms from the beginning of time period T2.
- e) The UE shall send one Event 1B triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T3.
- f) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T4.
- g) The UE may send one Event 1C triggered measurement report for Cell2 after the beginning of the time period T4.
- h) The UE may send one Event 1C triggered measurement report for Cell3 after the beginning of the time period T4.
- i) The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

A.8.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition

A.8.1.3.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of events. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.5 and A.8.6. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

Table A.8.5: General test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement	As specified in TS 25.101 section A.3.1
		Channel 12.2 kbps	
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		32	
T1	S	10	
T2	S	10	
T3	S	10	
T4	S	10	

Table A.8.6: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit		Ce	II 1			Cell 2				Ce	ell3		
		T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	
CPICH_Ec/lor	dB		-^	10			-^	10		-10				
PCCPCH_Ec/ lor	dB		-12			-12			-12					
SCH_Ec/lor	dB		-1	12			-′	12		-12				
PICH_Ec/lor	dB		-15				-15				-15			
DPCH_Ec/lor	dB		-17				N/A			N/A				
OCNS_Ec/lor	dB		-1.0	049		-0.941			-0.941					
\hat{I}_{or}/I_{oc}	dB	14.5 5	28.5 1	14.4 5	28.5 1	-Inf	27.5 1	13.9 5	21.5 1	8.05	21.5 1	13.9 5	27.5 1	
I _{oc}	dBm/ 3.84 MHz		-85											
CPICH_Ec/lo	dB	-11	-13	-14.5	-13	-Inf	-14.0	-15	-20	-17.5	-20	-15	-14	
Propagation Condition							AWGN							

A.8.1.3.2 Test Requirements

- a) The UE shall send one Event 1A triggered measurement report for Cell2, with a measurement reporting delay less than 200 ms from the beginning of time period T2.
- b) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T3.
- c) The UE shall send one Event 1B triggered measurement report for Cell2, with a measurement reporting delay less than 200 ms from the beginning of time period T4.
- d) The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

NEXT MODIFIED SECTIONS

A.8.2 FDD inter frequency measurements

A.8.2.1 Correct reporting of neighbours in AWGN propagation condition

A.8.2.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter frequency measurements. The test will partly verify the requirements in section 8.1.2.2.

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables A.8.9 and A.8.10 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting.

Table A.8.9: General test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Compressed mode		A.22 set 1	As specified in TS 25.101 section A.5.
Active cell		Cell 1	
Threshold non used frequency	dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used		1	Applicable for event 2C
frequency			
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list			Measurement control information is
size		24 on channel 1 16 on channel 2	sent before the compressed mode pattern starts.
T1	s	[10]	
T2	S	[5]	

Parameter	Unit	Ce	1	Cel	2	Ce	II 3	
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Chan	nel 1	Chanı	nel 1	Char	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
\hat{I}_{or}/I_{oc}	dB	0	4.39	Infinity	2.39	-1.8	-1.8	
I _{oc}	dBm/3.84 MHz	-70				-70		
CPICH_Ec/lo	dB	-13	-13	Infinity	-15	-14	-14	
Propagation Condition	AWGN							

TableA.8.10: Cell Specific parameters for Correct reporting of neighbours in AWGN propagation condition

A.8.2.1.2 Test Requirements

- a) The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than 5 seconds from the beginning of time period T1.
- b) The UE shall send one Event 1A triggered measurement report, with a measurement reporting delay less than 800 ms from the beginning of time period T2. The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

A.8.2.2 Correct reporting of neighbours in Fading propagation condition

A.8.2.2.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter frequency measurements. The test will partly verify the requirements in section 8.1.2.2. The test parameters are given in Table A.8.11 and A.8.12. In the measurement control information it is indicated to the UE that event-triggered reporting 2C shall be used.

Table A.8.11: General test parameters for Correct reporting of neighbours in Fading propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Compressed mode		Case 2.1	As specified in TS 25.101 section A.5.
Active cell		Cell 1	
Absolute Threshold	dB	-18	
(Ec/N0) for Event 2c			
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		Total 24	Measurement control information is
size		X on frequency Channel 2	sent before the compressed mode pattern starts.

Parameter	Unit	Cell 1	Cell 2
UTRA RF Channel Number		Channel 1	Channel 2
CPICH_Ec/lor	dB	-10	-10
PCCPCH_Ec/lor	dB	-12	-12
SCH_Ec/lor	dB	-12	-12
PICH_Ec/lor	dB	-15	-15
DPCH_Ec/lor	dB	TBD	TBD
OCNS		[To Be Calculated]	[To Be Calculated]
\hat{I}_{or}/I_{oc}	dB	0	-1.8
I _{oc}	dBm/3.84 MHz	-70	-70
CPICH_Ec/lo	dB	-13	-14
Propagation Condition	Case 5 as specifi	ed in Annex B of TS25.10	1

Table A.8.12: Test parameters for Correct reporting of neighbours in Fading propagation condition

A.8.2.2.2 Test Requirements

- a) The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than 5 seconds from the start of the test.
- b) The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least TBD%.

3GPP TSG RAN WG4 Meeting #19

R4-011074

Edinburgh, Great Britain, 3rd - 7th September 2001

	CR-Form-v3
	CHANGE REQUEST
^ж TS	25.133 CR 137 * rev _ * Current version: 4.1.0 *
For <u>HELP</u> on usi	ing this form, see bottom of this page or look at the pop-up text over the $#$ symbols.
Proposed change at	ffects: # (U)SIM ME/UE X Radio Access Network Core Network
Title: ដ	Success rates in test cases
Source: ೫	RAN WG4
Work item code: #	Date: 米 04-09-2001
Category: ೫	A Release: # Rel-4
	Use one of the following categories:Use one of the following releases:F (essential correction)2A (corresponds to a correction in an earlier release)R96B (Addition of feature),R97C (Functional modification of feature)R98D (Editorial modification)R99D (Editorial modification)R99D (Editorial modification)R99D (Editorial modification)R91C (Functional modification)R92D (Editorial modification)R93D (Editorial modification)R10Detailed explanations of the above categories canREL-4D (Release 4)REL-5D (Release 5)
Reason for change:	* The success rates of the tests are not given either in the test cases or in the start of Annex A. Section A.2.1 only says that a success rate of 90% is typically used.
Summary of change	Success rates are included into the test cases. The success rate of 90 % is used in all AWGN channel test cases. The inter-frequency test case in fading propagation conditions has not been separately analysed and since fading channel causes significant variation into the signal level, success rate in this case has still left open.
Consequences if not approved:	* The success rates of the tests are derived based on the general requirements of TS25.133 and the behaviour of the used radio propagation condition. If these success rates are missing, it might be difficult for T1 RF to find out the correct success rate for each test.
Clauses affected:	* A.4.2.1.2, A.4.2.2.2, A.4.4.2, A.5.6.1.2, A.5.6.2.2, A.5.7.1.2, A.5.7.2.2, A.8.1.2.2, A.8.1.3.2, A.8.1.3.2, A.8.1.2.1.2 and A.8.1.2.2.2
Other specs affected:	X Other core specifications % X Test specifications TS34.121 O&M Specifications TS34.121
Other comments:	¥

A.4 Idle Mode

A.4.1 Cell selection

(void)

A.4.2 Cell Re-Selection

Two scenarios are considered:

- Scenario 1: Single carrier case
- Scenario 2: Multi carrier case

For each of them a test is proposed.

NOTE: Existing scenarios cover only requirements in section 4.2.2.2. More scenarios, covering requirements in section 4.2.2.1, will be added later.

A.4.2.1 Scenario 1: Single carrier case

A.4.2.1.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in the single carrier case reported in section 4.2.2.

This scenario implies the presence of 1 carrier and 6 cells as given in tables A.4.1 and A.4.2. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
Access Se - Persisten	ervice Class (ASC#0) ace value	-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	length	S	1.28	The value shall be used for all cells in the test.
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Table A.4.1: General test parameters for Cell Re-selection single carrier multi-cell case

	r			T		-				T		T		
Parameter	Unit	Ce	ll 1	Ce	II 2	Ce	11 3	Cel	14	Cell 5		Ce	II 6	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Channe	Channel 1 Channel 7			Channel 1		Channe	Channel 1		Channel 1		Channel 1	
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941		
\hat{I}_{or}/I_{oc}	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27		
I _{oc}	dBm / 3.84 MHz	-70	-70											
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23		
Propagation Condition							AV	VGN						
Cell_selection_and_ reselection_quality_m easure		CPICH	CPICH E _c /N ₀		CPICH E _c /N ₀		E _c /N ₀	CPICH E _c /N ₀		CPICH E _c /N ₀		CPICH E _c /N ₀		
Qqualmin	dB	-2	20	-20		-2	20	-20		-20		-2	20	
Qrxlevmin	dBm	-1		-115			15	-115		-115			15	
UE_TXPWR_MAX_ RACH	dB	2		21			21	21		21		2	21	
Qoffset2 _{s, n}	dB	C1, 0 C1, 0 C1, 0	C1, C2: 0 C1, C3: 0 C1, C4: 0 C1, C5: 0 C1, C6: 0		C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C1: 0 C2: 0 C4: 0 C5: 0 C6: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C6, C6,	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0	
Qhyst2	dB	0)		0		0	C)		0		0	
PENALTY_TIME	S	0			0		0	C)	0			0	
TEMPORARY_OFFS ET2	dB	0		0		(0	0		0			0	
Treselection	S	0)	0		(D	0		0			0	
Sintrasearch	dB	not	sent	not	sent	not	sent	not sent			not sent not sent			

Table A.4.2: Cell re-selection single carrier multi-cell case

A.4.2.1.2 **Test Requirements**

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$, NOTE:

where:

67

68

TevaluateFDD	See Table 4.1 in section 4.2.2.
T _{SI}	Maximum repetition period of relevant system info blocks that needs to be received
	by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.4.2.2 Scenario 2: Multi carrier case

A.4.2.2.1 Test Purpose and Environment

This test is to verify the requirement for the cell re-selection delay in the multi carrier case reported in section 4.2.2.

This scenario implies the presence of 2 carriers and 6 cells as given in tables A.4.3 and A.4.4. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms. Cell 1 and cell 2 shall belong to different Location Areas.

Table A.4.3: General test parameters for Cell Re-selection in Multi carrier case

F	Parameter Unit Value		Value	Comment
Initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell1	
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle I	ength	S	1.28	The value shall be used for all cells in the test.
T1		T1 s		T1 need to be defined so that cell re-selection reaction time is taken into account.
	T2	S	15	T2 need to be defined so that cell re-selection reaction time is taken into account.

Parameter	Unit												
		Ce	1	C	ell 2	Ce	ell 3	Ce	II 4	Ce	ell 5	Ce	ll 6
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Chan	nel 1	Cha	innel 2	Char	nnel 1	Chan	inel 1	Char	nnel 2	Char	nnel 2
CPICH_Ec/lor	dB		0		-10		10		10	-	10		10
PCCPCH_Ec/lor	dB		2		-12		12		12		12		12
SCH_Ec/lor	dB		2		-12		12		12		12		12
PICH_Ec/lor	dB		5		-15		15		15		15		15
OCNS_Ec/lor	dB	-0.9			.941		941	-0.9			941		941
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I _{oc}	dBm / 3.84 MHz					-70							
CPICH_Ec/lo	dB	-16	-13	-13 -16		-	20	-20		-	20	-20	
Propagation Condition						-	AM	/GN		•		•	
Cell_selection_and_ reselection_quality_m easure		CPICH	I E _c /N ₀	CPIC	H E _c /N ₀	CPICI	H E _c /N ₀	CPICH E _c /N ₀		CPICH E _c /N ₀		CPICH E₀/N	
Qqualmin	dB	-2	0	-	·20	-2	20	-20		-20		-20	
Qrxlevmin	dBm	-1	15	-	115	-1	15	-115		-115		-115	
UE_TXPWR_MAX_ RACH	dB	2			21		21	21		21			21
Qoffset2 _{s, n}	dB	C1, C2: 0 C2, C1: 0 C1, C3: 0 C2, C3: 0 C1, C4: 0 C2, C4: 0 C1, C5: 0 C2, C5: 0 C1, C6: 0 C2, C6: 0		C3, C3, C3,	C1: 0 C2: 0 C4: 0 C5: 0 C6: 0	C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C5, C5,	C1: 0 C2: 0 C3: 0 C4: 0 C6: 0	C6, 0 C6, 0 C6, 0	C1: 0 C2: 0 C3: 0 C4: 0 C5: 0		
Qhyst2	dB	C)		0		0	0)	0		(0
PENALTY_TIME	S	C)		0		0	()		0	(0
TEMPORARY_OFFS ET	dB	C)		0		0	(0		0		0
Treselection	S	C	0		0		0	0			0	0	
Sintrasearch	dB	not	sent	no	t sent	not	sent	not	sent	not	sent	not	sent
Sintersearch	dB	not s			t sent		sent	not			sent		sent

Table A.4.4: Cell re-selection multi carrier multi cell case

A.4.2.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

70

TevaluateFDD	See Table 4.1 in section 4.2.2.
T _{SI}	Maximum repetition period of relevant system info blocks that needs to be received by
	the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.4.3 UTRAN to GSM Cell Re-Selection

A.4.3.1 Scenario 1

A.4.3.1.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell re-selection delay reported in section 4.3.2.1.

This scenario implies the presence of 1 UTRAN serving cell, and 1 GSM cell to be re-selected Test parameters are given in Table, A.4.5, A.4.6, A.4.7.

Table A.4.5: General test parameters for UTRAN to GSM Cell Re-selection

Pa	arameter	Unit	Value	Comment
Initial	Active cell		Cell1	
condition	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
T1		S		T1 need to be defined so that cell re-selection reaction time is taken into account.
T2	T2			T2 need to be defined so that cell re-selection reaction time is taken into account.

Parameter	Unit	Cell 1 (UTRA)				
		T1	T2			
UTRA RF Channel Number		Channel 1				
CPICH_Ec/lor	dB	-10				
PCCPCH_Ec/lor	dB	-12				
SCH_Ec/lor	dB	-12				
PICH_Ec/lor	dB	-15				
OCNS_Ec/lor	dB	-0.941				
\hat{I}_{or}/I_{oc}	dB	10.3	7.3			
I _{oc}	dBm/3.84 MHz	-70				
CPICH_Ec/lo	dB	-13	-16			
CPICH_RSCP	dBm	[L1]	[L2]			
Propagation Condition		AWGN				
Cell_selection_and_ reselection_quality_measure		CPICH E	No			
Qqualmin	dB	[]				
Qrxlevmin	dBm	[]				
UE_TXPWR_MAX_RACH	dBm	[]				
Qoffset1 _{s, n}	dB	C1, C2: []				
Qhyst1	dB	[]				
PENALTY_TIME	S	C2: []				
TEMP_OFFSET1	dB	C2:[]				
Treselection	S	[]				
Ssearch _{RAT}	dB	[]				

Table A.4.6: Cell re-selection UTRAN to GSM cell case (cell 1)

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Table A.4.7: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)				
		T1	T2			
Absolute RF Channel Number		ARFC	N 1			
RXLEV	dBm	-70	-60			
RXLEV_ACCESS_MIN	dBm	[]				
MS_TXPWR_MAX_CCH	dBm	[]				

A.4.3.1.2 Test Requirements

The requirements reported in section 4.3.2.1 shall be verified in more than [90%] of the cases.

A.4.4 FDD/TDD cell re-selection

A.4.4.1 Test Purpose and Environment

This test is to verify the requirement for the FDD/TDD cell re-selection delay reported in section 4.2.2.

This scenario implies the presence of 1 FDD and 1 TDD cell as given in Table A.4.8 and A.4.9.

The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304.

For this test environment the ranking/mapping function indicated in the broadcast of cell 1 shall be in such a way as to enable the UE to evaluate that the FDD cell 1 is better ranked as the TDD cell 2 during T1 and the TDD cell 2 is better ranked than the FDD cell 1, indicating a cell re-selection according to section 4.2.2.4 during T2.

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Cell 1 and cell 2 shall belong to different Location Areas.

 Table A.4.8: General test parameters for the FDD/TDD cell re-selection

	Parameter	Unit	Value	Comment
Initial	Active cell		Cell1	FDD cell
condition	Neighbour cells		Cell2	TDD cell
Final condition	Active cell		Cell2	
Access	Service Class (ASC#0)			Selected so that no additional
-	- Persistence value		1	delay is caused by the random access procedure. The value shall be used for all cells in the test.
	DRX cycle length	S	1.28	The value shall be used for all cells in the test.
	T1	S	15	Cell 1 better ranked than cell 2
	T2	S	15	Cell2 better ranked than cell 1

Parameter	Unit	Cel	11		Cell 2				
Timeslot Number		n.a	n.a.	()	8	3		
		T 1	T 2	T1	T2	T 1	T 2		
UTRA RF Channel Number		Chanı	nel 1		Char	nel 2			
CPICH_Ec/lor	dB	-10	-10	n.	a.	n.	a.		
PCCPCH_Ec/lor	dB	-12	-12	-3	-3				
SCH_Ec/lor	dB	-12	-12	-9	-9	-9	-9		
SCH_t _{offset}		n.a.	n.a.	0	0	0	0		
PICH_Ec/lor		-15	-15			-3	-3		
OCNS	dB	-0,941	-0,941	-4,28	-4,28	-4,28	-4,28		
\hat{I}_{or}/I_{oc}	dB	3	-2	-2	3	-2	3		
I _{oc}	dBm/3. 84 MHz		-70						
CPICH_RSCP	dBm	-77	-82	n.	a.	n.	a.		
PCCPCH_RSCP	dBm	n.a.	n.a.	-75	-70				
Cell_reselection_and		CPICH_							
quality _measure									
Treselection	S	0			()			
Propagation Condition		AWGN			AWGN				

Table A.4.9: FDD/TDD cell re-selection

NOTE: The purpose of this test case is to evaluate the delay of the FDD/TDD re-selection process, it is not intended to give reasonable values for a FDD/TDD cell re-selection.

A.4.4.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 2, and starts to send the RRC CONNECTION REQUEST message to perform a Location Registration on cell 2.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE:

The cell re-selection delay can be expressed as: $T_{evaluateTDD} + T_{SI}$, where:

 $T_{evaluateTDD}$: A DRX cycle length of 1280ms is assumed for this test case, this leads to a $T_{evaluateTDD}$ of 6.4s according to Table 4.1 in section 4.2.2.7.

 $T_{SI:}$ Maximum repetition rate of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

NEXT MODIFIED SECTIONS

A.5.6 Cell Re-selection in CELL_PCH

A.5.6.1 One frequency present in the neighbour list

A.5.6.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL_PCH state in section 5.6.2.

The test parameters are given in Table A5.5 and A5.6. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

	Parameter	Unit	Value	Comment				
initial	Active cell		Cell2					
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6					
final condition	Active cell		Cell1					
Access Service Class (ASC#0) - Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.				
DRX cycle	length	s	1.28	The value shall be used for all cells in the test.				
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.				
Т2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.				

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Parameter	Unit														
		Cell 1		Cell 2		Cell 3		Ce	Cell 4		Cell 5		16		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	Т2		
UTRA RF Channel Number		Chann	el 1	Channe	el 1	Chann	nel 1	Chanr	el 1	Channel 1		el 1 Channe			
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10			
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12			
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12			
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15			
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941			
\hat{I}_{or}/I_{oc}	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27			
I _{oc}	dBm/ 3.84MHz	-70	70												
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23 -23		-23	23 -23			-23			
Propagation Condition						AWGN									
Cell_selection_and_ reselection_quality_ measure		CPICH	E _c /N ₀	CPICH	E _c /N ₀	CPICH E _c /N ₀			CPICH E _c /N ₀		CPICH Ec/No	ł			
Qqualmin	dB	-:	20	-2	20	-20		-20		-20 -20		-2	0		
Qrxlevmin	dBm	-1	15	-11	15	-115		-115		-115		-11	15		
UE_TXPWR_ MAX_RACH	dBm	2	21	2	1	21	1	21		2	21	2	1		
Qoffset2 _{s, n}	dB	C1, C1, C1,	C2: 0 C3: 0 C4: 0 C5: 0 C6: 0	C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0		3, C2: 0C4, C2: 03, C4: 0C4, C3: 03, C5: 0C4, C5: 0		C4, C2: 0 C4, C3: 0 C5, C2: 0 C5, C3: 0		C2: 0 C3: 0 C4: 0	C6, C C6, C C6, C C6, C C6, C	C2: 0 C3: 0 C4: 0	
	dB			C	`	0	0		,)		0	0	
Qhyst2	ub		0)	0		0			0	U U)		
Qhyst2 PENALTY_TIME	S		0			0					0	0			
			-	-)	-		(-	-)		
PENALTY_TIME TEMPORARY_OFF	S		0	C)	0)	()		0	0)		

Table A.5.6: Cell specific test parameters for Cell re-selection in CELL_PCH state

A.5.6.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the CELL UPDATE message with cause value "cell reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD:} See section 5.6.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.6.2 Two frequencies present in the neighbour list

A.5.6.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in CELL_PCH state in section 5.6.2. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

The test parameters are given in Table A.5.7 and A.5.8

Table A.5.7: General test parameters for Cell Re-selection in CELL_PCH

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
	Access Service Class (ASC#0) - Persistence value		1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	DRX cycle length		1.28	The value shall be used for all cells in the test.
Τ1		S	30	T1 need to be defined so that cell re- selection reaction time is taken into account.
T2	T2		15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter	Unit													
		Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		Cell 6		
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number				Channel 2		Channel 1		Channel 1		Channel 2		Channel 2		
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10	-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12	-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12			-12			-12		
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15		
OCNS_Ec/lor	dB	-0.941		-0.94	1	-0.941		-0.941		-0.941		-0.941		
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4	
I _{oc}	dBm/3.8 4 MHz													
CPICH_Ec/lo dB		-16	-16 -13 -13 -16 -20 -20 -20							-20				
Propagation Condition		AWGN												
Cell_selection_ and_reselection_ guality measure		CPICH CPICH E_0/N_0 E_0/N_0		CPICH E _o /N ₀	I	CPICH	IE₀/N₀	CPICH E _c /N ₀		CPICH E _c /N ₀				
Qqualmin	dB	-2	0	-:	20	-2	0	-20		-20		-:	20	
Qrxlevmin	dBm	-11	5	-1	15	-11	5	-115		-115		-115		
UE_TXPWR_ MAX_RACH	dBm	21 21		2'	l	21		21		21				
Qoffset2 _{s, n}	dB	C1, C C1, C C1, C C1, C C1, C	3: 0 4: 0 5: 0	C2, C1: 0 C2, C3: 0 C2, C4: 0 C2, C5: 0 C2, C6: 0		C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0		C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0		
Qhyst2	dB	0		0		0		0		0		0		
PENALTY_TIME	S	C			0	0		0		0		0		
TEMPORARY_OF FSET	PORARY_OF dB 0 0			0		0		0						
Treselection	S	C			0	0		0		0		0		
Sintrasearch	dB	not s	sent	not	sent	not s	ent	not sent		not sent		not sent		
Sintersearch	dB	not s	sent	not	sent	not s	ent	not	sent	not s	ent	not	sent	

A.5.6.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the CELL UPDATE message with cause value "cell reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD}: See section 5.6.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.7 Cell Re-selection in URA_PCH

A.5.7.1 One frequency present in the neighbour list

A.5.7.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in URA_PCH state in section 5.7.2.

The test parameters are given in Table A.5.9 and A.5.10. The UE is requested to monitor neighbouring cells on 1 carrier. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Cells possible for re-selection shall belong to different UTRAN Registration Areas (URA).

Parameter		Unit	Value	Comment
initial	Active cell		Cell2	
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6	
final condition	Active cell		Cell1	
Access Service Class (ASC#0) - Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.
DRX cycle	DRX cycle length		1.28	The value shall be used for all cells in the test.
T1		S	15	T1 need to be defined so that cell re- selection reaction time is taken into account.
Τ2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.

Parameter Unit		0.		Cell 2		Cell 3				0.115		Cell 6							
		Ce	ell 1	Cei	12	Cell 3		Cell 4		Cell 5		Cell 6							
		T1	T2	T1	T2	T1	T2	T1	T2	T1	Т2	T1	Т2						
UTRA RF Channel Number		Channel 1		Channel 1		Channel 1		Channel 1		Channel 1		Channel 1							
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10							
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12							
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12							
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15							
OCNS_Ec/lor	dB	-0.941		-0.941		-0.941		-0.941		-0.941		-0.941							
\hat{I}_{or}/I_{oc}	dB	7.3	10.27	10.27	7.3	0.27		0.27		0.27		0.27							
I _{oc}	dBm/3.84 MHz	-70																	
CPICH_Ec/lo	dB	-16	-13	-13	-16	-23		-23		-23		-23							
Propagation Condition	AWGN																		
Cell_selection_and_ reselection_quality_ measure		CPICH	CPICH E _c /N ₀ CPICH E _c /N ₀		CPICH E _c /N ₀	ł	CPICH	I E₀/N₀			CPICH E _c /N ₀	ł							
Qqualmin	dB	-2	20	-20		-20		-20		-20		-2	0						
Qrxlevmin	dBm	-1	15	-11	15	-115		-115		-115		-11	15						
UE_TXPWR_ MAX_RACH	dBm	2	21	21		21		21		2	21	2	1						
Qoffset2 _{s, n}	C1, C2: 0 C1, C3: 0 C2, C1: 0 C2, C3: 0		C3, C1: 0 C3, C2: 0 C3, C4: 0 C3, C5: 0 C3, C6: 0		C4, C1: 0 C4, C2: 0 C4, C3: 0 C4, C5: 0 C4, C6: 0		C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C C6, C C6, C C6, C C6, C	2: 0 3: 0 4: 0									
Qhyst2	dB		0	0		0		0		0		0							
PENALTY_TIME			0		0		0		0										
TEMPORARY_OFF SET	dB		0		0		-		0		-		0		0		0)
Treselection	S		0	0		0		0 0 0 0		0		0	0						
Sintrasearch	dB	not	sent	not sent		not sent		not sent		not sent		not sent							

Table A.5.10: Cell specific test parameters for Cell re-selection in URA_PCH state

A.5.7.1.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending the URA UPDATE message with cause value "URA reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD}: See section 5.7.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.5.7.2 Two frequencies present in the neighbour list

A.5.7.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the cell re-selection delay in URA_PCH state in section 5.7.2.

The test parameters are given in Table A5.11 and A5.12. The UE is requested to monitor neighbouring cells on 2 carriers. The maximum repetition period of the relevant system info blocks that needs to be received by the UE to camp on a cell shall be 1280 ms.

Cells possible for re-selection shall belong to different UTRAN Registration Areas (URA).

	Parameter	Unit	Value	Comment				
initial	Active cell		Cell2					
condition	Neighbour cells		Cell1, Cell3,Cell4, Cell5, Cell6					
final condition	Active cell		Cell1					
Access Service Class (ASC#0) - Persistence value		-	1	Selected so that no additional delay is caused by the random access procedure. The value shall be used for all cells in the test.				
DRX cycle	DRX cycle length		1.28	The value shall be used for all cells in the test.				
Τ1		S	30	T1 need to be defined so that cell re- selection reaction time is taken into account.				
Τ2		S	15	T2 need to be defined so that cell re- selection reaction time is taken into account.				

Table A.5.11: General test parameters for Cell Re-selection in URA_PCH

Parameter	Unit	Cell 1		Cell 2		Cell 3		Cell 4		Cell 5		Cell 6	
		T1	T2	T1	Т2	T1	T2	T1	Т2	T1	T2	T1	T2
UTRA RF Channel Number		Chann	el 1	Chan	nel 2	Chann	el 1	Chanr	nel 1	Channel	2	Chanr	nel 2
CPICH_Ec/lor	dB	-10		-10		-10		-10		-10		-10	
PCCPCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
SCH_Ec/lor	dB	-12		-12		-12		-12		-12		-12	
PICH_Ec/lor	dB	-15		-15		-15		-15		-15		-15	
OCNS_Ec/lor	dB	-0.941		-0.94	1	-0.941		-0.941		-0.941		-0.941	
\hat{I}_{or}/I_{oc}	dB	-3.4	2.2	2.2	-3.4	-7.4	-4.8	-7.4	-4.8	-4.8	-7.4	-4.8	-7.4
I _{oc}	dBm/3.8 4 MHz	-70	-70										
CPICH_Ec/lo	dB	-16	-13	-13	-16	-20		-20		-20		-20	
Propagation Condition							ŀ	AWGN					
Cell_selection_ and_reselection_ quality_measure		CPIC⊦ E _c ∕N₀	ł	CPIC E _c /N ₀		CPICH E _c /N ₀	ł	CPICH E _c /N ₀		CPICH E _c /N ₀		CPICH E _c /N ₀	
Qqualmin	dB	-2	0	-2	20	-2	0	-20		-20		-20	
Qrxlevmin	dBm	-11	5	-1	15	-11	5	-115		-115		-115	
UE_TXPWR_ MAX_RACH	dBm	2′			21	2'		21		21		21	
Qoffset2 _{s, n}	dB	C1, C C1, C C1, C	1, C2: 0 C2, C1: 0 1, C3: 0 C2, C3: 0 1, C4: 0 C2, C4: 0 1, C5: 0 C2, C5: 0 1, C6: 0 C2, C6: 0		C3, C C3, C C3, C	C3, C1: 0 C4, C1: 0 C3, C2: 0 C4, C2: 0 C3, C4: 0 C4, C3: 0 C3, C5: 0 C4, C5: 0 C3, C6: 0 C4, C6: 0		C2: 0 C3: 0 C5: 0	C5, C1: 0 C5, C2: 0 C5, C3: 0 C5, C4: 0 C5, C6: 0		C6, C1: 0 C6, C2: 0 C6, C3: 0 C6, C4: 0 C6, C5: 0		
Qhyst2	dB	0			0	0		()	0			0
PENALTY_TIME	S	0			0	0		(C	0			0
TEMPORARY_OF FSET	dB	0		0		0		0		0		0	
Treselection	S	0	_		0	0		0		0			0
Sintrasearch	dB	not s	ent	not	sent	not s	sent	not sent		not s	ent	not	sent
Sintersearch	dB	not s	ent	not	sent	not s	sent	not	sent	not s	ent	not	sent

Table A.5.12: Cell specific test parameters for Cell re-selection in URA_PCH state

A.5.7.2.2 Test Requirements

The cell re-selection delay is defined as the time from the beginning of time period T2, to the moment when the UE camps on Cell 1, and starts to send preambles on the PRACH for sending URA UPDATE message with cause value "URA reselection" in Cell 1.

The cell re-selection delay shall be less than 8 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90%.

NOTE: The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$,

where:

T_{evaluateFDD}: See section 5.7.2.

 T_{SI} : Maximum repetition period of relevant system info blocks that needs to be received by the UE to camp on a cell. 1280 ms is assumed in this test case.

This gives a total of 7.68 s, allow 8s in the test case.

A.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Parameter	Unit	Value	Comment
DCH Parameters		DL Reference measurement channel 12.2 kbps	As specified in TS 25.101, section A.3.1
Power Control		On	
Active cell		Cell 1	
N313	Frames	20	
N315	Frames	20	
T313	Second	0	
	S		
T _{SI}	ms	1280	Maximum repetition period of all relevant system information blocks that needs to be received by the UE to camp on a cell. For information on the system information blocks that needs to be received by the UE, see TS 25.331.
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2 included in monitored set		Included	
Reporting frequency	Second s	4	
T1		10	
T2		6	

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Parameter	Unit	Ce	1	Cell 2		
		T1	T2	T1	T2	
Cell Frequency	ChNr		1		1	
CPICH_Ec/lor	dB	-1	0	-*	10	
PCCPCH_Ec/lor	dB	-1	2	-*	12	
SCH_Ec/lor	dB	-1	2	-12		
PICH_Ec/lor	dB	-1	5	-15		
DCH_Ec/lor	dB	-17	-Inf	Not applicable		
OCNS_Ec/lor	dB	-1.049	-0.941	-0.941		
\hat{I}_{or}/I_{oc}	dB	2,	39	4,39		
I _{oc}	dBm/ 3.84 MHz		-70			
CPICH_Ec/lo	dB	-1	5	-13		
Propagation Condition		AWGN				

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Table A.6.3 General test parameters for RRC re-establishment delay, Test 2

Parameter	Unit	Value	Comment
DCH Parameters		DL Reference measurement channel 12.2 kbps	As specified in TS 25.101, section A.3.1
Power Control		On	
Active cell		Cell 1	
N313	Frames	20	
N315	Frames	20	
T313	Seconds	0	
Tsı	ms	1280	Maximum repetition period of all relevant system information blocks that needs to be received by the UE to camp on a cell. For information on the system information blocks that needs to be received by the UE, see TS 25.331.
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2 included in monitored set		Not Included	
Reporting frequency	Seconds	4	
T1		10	
T2		6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	C	ell 1	Cell 2			
		T1	T2	T1	T2		
Cell Frequency	ChNr		1	2)		
CPICH_Ec/lor	dB	-	-10	-1	0		
PCCPCH_Ec/lor	dB		-12	-1	2		
SCH_Ec/lor	dB	-	·12	-12			
PICH_Ec/lor	dB		-15	-15			
DCH_Ec/lor	dB	-17	-Inf	Not applicable			
OCNS_Ec/lor	dB	-1.049	-0.941	-0.9	941		
\hat{I}_{or}/I_{oc}	dB	-3	3,35	0,0)2		
I _{oc}	dBm/ 3.84 MHz		-70				
CPICH_Ec/lo	dB		-15	-13			
Propagation Condition		AWGN					

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A.6.1.2 Test Requirements

Test 1

RRC re-establishment delay shall be less than 1630 ms.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

Test 2

RRC re-establishment delay shall be less than 3930 ms.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NEXT MODIFIED SECTIONS

A.8.1.2 Event triggered reporting of multiple neighbours in AWGN propagation condition

A.8.1.2.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of events. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.3 and A.8.4. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A, 1C and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Replacement activation threshold		0	Applicable for event 1C
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		32	
T1	S	10	
T2	S	10	
Т3	S	5	
T4	S	10	

Table A.8.3: General test parameters for Event triggered reporting of multiple neighbours in AWGN propagation conditions

Parameter	Unit	Cell 1				Cell 2				Cell3			
		T1	T2	T3	T4	T1	T2	Т3	T4	T1	T2	Т3	T4
CPICH_Ec/lor	dB	-10					-1	0		-10			
PCCPCH_Ec/ lor	dB		-12			-12			-12				
SCH_Ec/lor	dB	-12				-12				-12			
PICH_Ec/lor	dB	-15				-15				-15			
DPCH_Ec/lor	dB	-17				N/A			N/A				
OCNS_Ec/lor	dB		-1.0	049		-0.941			-0.941				
\hat{I}_{or}/I_{oc}	dB	6.97	6.93	5.97	6.12	-Inf	9.43	6.97	7.62	5.97	6.93	-Inf	5.62
I _{oc}	dBm/ 3.84 MHz		-85										
CPICH_Ec/lo	dB	-13	-16	-14	-15.5	-Inf	-13.5	-13	-14	-14	-16	-Inf	-16
Propagation Condition		AWGN											

Table A.8.4: Cell specific test parameters for Event triggered reporting of multiple neighbours in AWGN propagation condition

A.8.1.2.2 Test Requirements

- a) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 800 ms from the beginning of time period T1.
- b) The UE may send one Event 1C triggered measurement report for Cell3 after the beginning of the time period T1.
- c) The UE shall send one Event 1C triggered measurement report for Cell2, with a measurement reporting delay less than 800 ms from the beginning of time period T2.
- d) The UE shall send one Event 1A triggered measurement report for Cell2, with a measurement reporting delay less than 800 ms from the beginning of time period T2.
- e) The UE shall send one Event 1B triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T3.
- f) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T4.
- g) The UE may send one Event 1C triggered measurement report for Cell2 after the beginning of the time period T4.
- h) The UE may send one Event 1C triggered measurement report for Cell3 after the beginning of the time period T4.
- i) The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

A.8.1.3 Event triggered reporting of two detectable neighbours in AWGN propagation condition

A.8.1.3.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of events. This test will partly verify the requirements in section 8.1.2 and 9.1.

The test parameters are given in Table A.8.5 and A.8.6. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used and the periodical reporting of the events is not applied. The test consists of four successive time periods, with a time duration of T1, T2, T3 and T4 respectively. In the initial condition before the time T1 only Cell1 is active.

Table A.8.5: General test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement	As specified in TS 25.101 section A.3.1
		Channel 12.2 kbps	
Power Control		On	
Active cell		Cell 1	
Reporting range	dB	3	Applicable for event 1A and 1B
Hysteresis	dB	0	
W		1	Applicable for event 1A and 1B
Reporting deactivation		0	Applicable for event 1A
threshold			
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		32	
T1	s	10	
T2	S	10	
T3	S	10	
T4	S	10	

Table A.8.6: Cell specific test parameters for Event triggered reporting of two detectable neighbours in AWGN propagation condition

Parameter	Unit	Cell 1					Cell 2				Cell3			
		T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	
CPICH_Ec/lor	dB		-1	10			-1	10		-10				
PCCPCH_Ec/ lor	dB	-12			-12			-12						
SCH_Ec/lor	dB	-12					-1	12		-12				
PICH_Ec/lor	dB	-15				-15			-15					
DPCH_Ec/lor	dB	-17				N/A			N/A					
OCNS_Ec/lor	dB		-1.0	049		-0.941			-0.941					
\hat{I}_{or}/I_{oc}	dB	14.5 5	28.5 1	14.4 5	28.5 1	-Inf	27.5 1	13.9 5	21.5 1	8.05	21.5 1	13.9 5	27.5 1	
I _{oc}	dBm/ 3.84 MHz		-85											
CPICH_Ec/lo	dB	-11	-13	-14.5	-13	-Inf	-14.0	-15	-20	-17.5	-20	-15	-14	
Propagation Condition							AWGN							

A.8.1.3.2 Test Requirements

- a) The UE shall send one Event 1A triggered measurement report for Cell2, with a measurement reporting delay less than 200 ms from the beginning of time period T2.
- b) The UE shall send one Event 1A triggered measurement report for Cell3, with a measurement reporting delay less than 200 ms from the beginning of time period T3.
- c) The UE shall send one Event 1B triggered measurement report for Cell2, with a measurement reporting delay less than 200 ms from the beginning of time period T4.
- d) The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

NEXT MODIFIED SECTIONS

A.8.2 FDD inter frequency measurements

A.8.2.1 Correct reporting of neighbours in AWGN propagation condition

A.8.2.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter frequency measurements. The test will partly verify the requirements in section 8.1.2.2.

The test consists of two successive time periods, with a time duration T1 and T2. The test parameters are given in tables A.8.9 and A.8.10 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting.

Table A.8.9: General test parameters for Correct reporting of neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Compressed mode		A.22 set 1	As specified in TS 25.101 section A.5.
Active cell		Cell 1	
Threshold non used frequency	dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range	dB	4	Applicable for event 1A
Hysteresis	dB	0	
W		1	Applicable for event 1A
W non-used		1	Applicable for event 2C
frequency			
Reporting deactivation threshold		0	Applicable for event 1A
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list			Measurement control information is
size		24 on channel 1 16 on channel 2	sent before the compressed mode pattern starts.
T1	S	[10]	
T2	S	[5]	

Parameter	Unit	Cell 1		Cel	12	Cell 3		
		T1	T2	T1	T2	T1	T2	
UTRA RF Channel Number		Channel 1		Channel 1		Chai	nnel 2	
CPICH_Ec/lor	dB	-10		-10		-10		
PCCPCH_Ec/lor	dB	-12		-12		-12		
SCH_Ec/lor	dB	-12		-12		-12		
PICH_Ec/lor	dB	-15		-15		-15		
DPCH_Ec/lor	dB	-17		N/A		N/A		
OCNS		-1.049		-0.941		-0.941		
\hat{I}_{or}/I_{oc}	dB	0	4.39	Infinity	2.39	-1.8	-1.8	
I _{oc}	dBm/3.84 MHz	-70				-70		
CPICH_Ec/lo	dB	-13	-13	Infinity	-15	-14	-14	
Propagation Condition	AWGN							

TableA.8.10: Cell Specific parameters for Correct reporting of neighbours in AWGN propagation condition

A.8.2.1.2 Test Requirements

The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than 5 seconds from the beginning of time period T1.

The UE shall send one Event 1A triggered measurement report, with a measurement reporting delay less than 800 ms from the beginning of time period T2. The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

A.8.2.2 Correct reporting of neighbours in Fading propagation condition

A.8.2.2.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter frequency measurements. The test will partly verify the requirements in section 8.1.2.2. The test parameters are given in Table A.8.11 and A.8.12. In the measurement control information it is indicated to the UE that event-triggered reporting 2C shall be used.

Table A.8.11: General test parameters for Correct reporting of neighbours in Fading propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Compressed mode		Case 2.1	As specified in TS 25.101 section A.5.
Active cell		Cell 1	
Absolute Threshold	dB	-18	
(Ec/N0) for Event 2c			
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		Total 24	Measurement control information is
size		X on frequency Channel 2	sent before the compressed mode pattern starts.

Parameter	Unit	Cell 1	Cell 2		
UTRA RF Channel Number		Channel 1	Channel 2		
CPICH_Ec/lor	dB	-10	-10		
PCCPCH_Ec/lor	dB	-12	-12		
SCH_Ec/lor	dB	-12	-12		
PICH_Ec/lor	dB	-15	-15		
DPCH_Ec/lor	dB	TBD	TBD		
OCNS		[To Be Calculated]	[To Be Calculated]		
\hat{I}_{or}/I_{oc}	dB	0	-1.8		
I _{oc}	dBm/3.84 MHz	-70	-70		
CPICH_Ec/lo	dB	-13	-14		
Propagation Condition	Case 5 as specified in Annex B of TS25.101				

Table A.8.12: Test parameters for Correct reporting of neighbours in Fading propagation condition

A.8.2.2.2 Test Requirements

- a) The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than 5 seconds from the start of the test.
- b) The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least TBD%.

3GPP TSG RAN WG4 Meeting #19

R4-010983

Edinburgh, Great Britain, 3rd - 7th September 2001

		CR-Form-v4
	CHANGE REQUEST	
ж	25.133 CR 138 * ev _ * Current version:	<mark>3.6.0</mark> [#]
For <u>HELP</u> on us	sing this form, see bottom of this page or look at the pop-up text over the	he X symbols.
Proposed change a	affects: ೫ (U)SIM ME/UE X Radio Access Network	Core Network
Title: ೫	FDD/GSM Handover test case	
Source: ೫	RAN WG4	
Work item code: ℜ	Date: 第 2001	1-06-29
Category: ೫	A (corresponds to a correction in an earlier release)R96(Release)B (addition of feature),R97(Release)C (functional modification of feature)R98(Release)	owing releases: Phase 2) Ise 1996) Ise 1997) Ise 1998) Ise 1999) Ise 4)
Reason for change	E: X There are no testcases for handover to GSM. If we claim that TS follow the annex in 25.133 when defining the tests this annex m	
Summary of chang	ge: 第 Addition of a testcase	
Consequences if not approved:	Here will not be any tests of the interruption time for handover	
Clauses affected:	¥ A.5.4	
Other specs affected:	%Other core specifications%XTest specifications34.121O&M Specifications	
Other comments:	¥	

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A.5 UTRAN Connected Mode Mobility

A.5.1 FDD/FDD Soft Handover

NOTE: This section is included for consistency with numbering with section 5; currently no test covering requirements in sections 5.1.2.1 and 5.1.2.2 exists.

2

A.5.2 FDD/FDD Hard Handover

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.2.2.1 and 5.2.2.2 exists.

A.5.3 FDD/TDD Hard Handover

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.3.2.1 and 5.3.2.2 exists.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.4.2.1 and 5.4.2.2 exists.

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 4.3.2.1.

The test parameters are given in Table A.5.y1, A.5.y2 and A.5.y3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time at beginning of T3 with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included.

		condition	
Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
Power Control		<u>12.2 kbps</u> On	
Target quality value	BLER	0.01	
on DTCH			
Compressed mode			
patterns - GSM carrier RSSI		DL Compressed mode reference	As specified in table A.22 TS 25.101
measurement		pattern 2 in Set 2	section A.5
- GSM Initial BSIC identification		Pattern 2	As specified in section 8.1.2.5.2.1 table 8.7.
- GSM BSIC re- confirmation		Pattern 2	As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT		GSM Carrier RSSI	
<u>measurement</u> guantity			
BSIC verification		Required	
required			
Threshold other system	<u>dBm</u>	<u>-80</u>	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		24 FDD neighbours on Channel 1	Measurement control information is
size		6 GSM neighbours including ARFCN 1	sent before the compressed mode
			patterns starts.
N Identify abort		<u>65</u>	Taken from table 8.7.
T Reconfirm abort		<u>5.0</u>	Taken from table 8.8.
<u>T1</u>	S	20	
<u>T2</u>	S	<u>5</u>	
<u>T3</u>	<u>s</u>	<u>5</u>	

Table A.5.y1: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

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Table A.5.y2: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	<u>Unit</u>	<u>Cell 1 (UTRA)</u>
CPICH Ec/lor	<u>dB</u>	<u>T1, T2, T3</u> -10
PCCPCH_Ec/lor SCH_Ec/lor	<u>dB</u> dB	<u>-12</u> <u>-12</u>
PICH Ec/lor DCH Ec/lor	<u>dB</u> dB	<u>-15</u> Note 1
OCNS_Ec/lor	dB	Note 2
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>
I _{oc}	<u>dBm/3.</u> 84 MHz	<u>-70</u>
CPICH_Ec/lo	<u>dB</u>	<u>-13</u>
Propagation Condition		AWGN

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.

Table A.5.y3: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	<u>Unit</u>	<u>Cell 2 (GSM)</u>	
		<u>T1</u>	<u>T2, T3</u>
Absolute RF Channel Number		ARFCN 1	
RXLEV	<u>dBm</u>	<u>-85</u>	<u>-75</u>

A.4.3.1.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 Meeting #19

R4-011075

Edinburgh, Great Britain, 3rd - 7th September 2001

		CR-Form-v4
	CHANGE REQUEST	Γ
ж	25.133 CR 139 [#] ev - [#]	Current version: 4.1.0 [#]
For <u>HELP</u> on us	sing this form, see bottom of this page or look at th	ne pop-up text over the X symbols.
Proposed change a	iffects: ೫ (U)SIM ME/UE <mark>メ</mark> Radio A	ccess Network Core Network
Title: ೫	FDD/GSM Handover test case	
Source: #	RAN WG4	
Work item code: #		Date:
	 A Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier releas B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP <u>TR 21.900</u>. 	Release: %Rel-4Use one of the following releases: 2(GSM Phase 2)Se)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)REL-4(Release 4)REL-5(Release 5)
Reason for change	There are no testcases for handover to GSI follow the annex in 25.133 when defining th	
Summary of change	e: # Addition of a testcase	
Consequences if not approved:	* There will not be any tests of the interruption	n time for handover
Clauses affected:	ж <mark>А.5.4</mark>	
Other specs affected:	XOther core specificationsXTest specifications34.121O&M Specifications34.121	
Other comments:	# Rel-4 CR of R4-010983	

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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.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

NOTE: This section is included for consistency with numbering with section 5 currently no test covering requirements in sections 5.4.2.1 and 5.4.2.2 exists.

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 4.3.2.1.

The test parameters are given in Table A.5.y1, A.5.y2 and A.5.y3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time at beginning of T3 with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included.

Table A.5.y1: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	<u>Unit</u>	Value	Comment
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
		12.2 kbps	
Power Control		<u>On</u>	
Target quality value	BLER	0.01	
on DTCH			
Compressed mode			
patterns			
- GSM carrier RSSI		DL Compressed mode reference	As specified in table A.22 TS 25.101
measurement		pattern 2 in Set 2	section A.5
- GSM Initial BSIC		Pattern 2	As specified in section 8.1.2.5.2.1 table
identification			<u>8.7.</u>
- GSM BSIC re-		Pattern 2	As specified in section 8.1.2.5.2.2 table
confirmation			<u>8.8.</u>
Active cell		Cell 1	
Inter-RAT		GSM Carrier RSSI	
measurement			
<u>quantity</u>			
BSIC verification		Required	
required			
Threshold other	dBm	-80	Absolute GSM carrier RSSI threshold
system			for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list		24 FDD neighbours on Channel 1	Measurement control information is
size		6 GSM neighbours including ARFCN 1	sent before the compressed mode
		<u></u>	patterns starts.
N Identify abort		65	Taken from table 8.7.
T Reconfirm abort		5.0	Taken from table 8.8.
T1	S	20	
T2	s	5	
T3	s	5	
10	∠	_ I <u>¥</u>	<u> </u>

75

Table A.5.y2: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	<u>Unit</u>	<u>Cell 1 (UTRA)</u>
		<u>T1, T2, T3</u>
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>
SCH_Ec/lor	<u>dB</u>	<u>-12</u>
PICH_Ec/lor	<u>dB</u>	<u>-15</u>
DCH_Ec/lor	<u>dB</u>	Note 1
OCNS_Ec/lor	<u>dB</u>	Note 2
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>
I _{oc}	<u>dBm/3.</u> <u>84 MHz</u>	<u>-70</u>
CPICH_Ec/lo	<u>dB</u>	<u>-13</u>
Propagation Condition		AWGN

Note 1: The DPCH level is controlled by the power control loop

Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.

Table A.5.y3: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	<u>Unit</u>	<u>Cell 2 (GSM)</u>	
		<u>T1</u>	<u>T2, T3</u>
Absolute RF Channel Number		ARFCN 1	
<u>RXLEV</u>	<u>dBm</u>	<u>-85</u>	<u>-75</u>

A.4.3.1.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 Meeting #19

R4-011004

Edinburgh, Great Britain, 3rd - 7th September 2001

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¥	<mark>25.133</mark>	CR <mark>142</mark>	ж	ev 🗕	¥ Cur	rent vers	ion: 3.6.0 [#]	
For <u>HELP</u> on us	ing this for	rm, see bottom	of this pag	je or look a	at the pop	o-up text	over the X symbols	5.
Proposed change at	ffects:	(U)SIM	ME/UE	X Radi	io Access	S Network	Core Network	k
Title: ೫	TFC sele	ction in the UE	test case					
Source: ೫	RAN WG	4						
Work item code: 🕷						Date: ೫	2001-07-11	
	F (con A (cor B (add C (fun D (edi Detailed exp	the following cate rection) responds to a co dition of feature), ctional modification torial modification blanations of the 3GPP <u>TR 21.900</u>	orrection in a ion of featur n) above cate	re)	U	se <u>one</u> of 2 R96 R97 R98 R99 REL-4	Rel99 the following releases. (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	:
Reason for change:		nsistency betwo irement.	een TS 25	.321 and T	r <mark>S 25.13</mark> 3	<mark>8 regardi</mark> i	ng UE TFC selection	า
Summary of change	The p (Intera	roposed test co	overs the c round) is u	ase when ised, i.e. n	a RAB in to codec i	itended f	or packet data servi For the case where	се
Consequences if not approved:		e will be no tes ormance.	t case to v	erify the g	eneral re	quiremer	nt on UE TFC select	ion
Clauses affected:	ж <mark>А.6.3</mark>	<mark>3 (new), A.6.4 (</mark>	new)					
Other specs affected:	X Te	ther core speci est specificatior &M Specificatio	าร	ж 34.	.121			
Other comments:	ж							

How to create CRs using this form:

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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 <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

A.6.2.2.3 Correct behaviour at Time-out

The UE shall stop transmit preambles when reaching the maximum number of preambles allowed in a cycle. The UE shall then repeat the ramping procedure until the maximum number of preamble ramping cycles are reached. No ACK/NACK shall be sent by UTRAN during this test.

The UE shall transmit 2 preambles cycles, consisting of 12 preambles in each preamble cycle.

A.6.2.2.4 Correct behaviour when reaching maximum transmit power

The UE shall not exceed the maximum allowed UL TX power configured by the UTRAN. No ACK/NACK shall be sent by UTRAN during this test.

The absolute power of any preambles belonging to the first or second preamble cycle shall not exceed 0 dBm + -[] dB (or + -[] dB in extreme conditions).

<u>A.6.3 Void</u>

A.6.4 Transport format combination selection in UE

A.6.4.1 Test Purpose and Environment

The purpose is to verify the UE blocks (stops using) a currently used TFC when the UE output power is not sufficient to support that TFC. This test will verify the general requirement on TFC selection in section 6.4.

A.6.4.1.1 Interactive or Background, PS, UL: 64 kbps

The test will verify the general requirement on TFC selection in section 6.4 for a RAB intended for packet data services, i.e. Interactive or Background, PS, UL: 64kbps as defined in TS 34.108.

The test parameters are given in Table A.x.x, A.x.y and Table A.x.z below. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively.

Details on the UL reference RAB in table A.x.x and A.x.y can be found in TS 34.108 section "Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH".

	<u>TFI</u>	<u>64 kbps RAB (20ms TTI)</u>	DCCH 3.4kbps (40ms TTI)
<u>TFS</u>	TF0, bits	<u>0x336</u>	<u>0x148</u>
	TF1, bits	<u>1x336</u>	<u>1x148</u>
	TF2, bits	<u>2x336</u>	<u>N/A</u>
	TF3, bits	<u>3x336</u>	<u>N/A</u>
	TF4, bits	<u>4x336</u>	<u>N/A</u>

Table A.x.x UL reference RAB, Interactive or Background

		<u>Table A.x.y UL TFCI</u>
TFCI	(64 kbps RAB, DCCH)	
UL_TFC0	(TF0, TF0)	
UL_TFC1	(TF0, TF1)	

TFCI	(64 kbps RAB, DCCH)
UL TFC2	(<u>TF1, TF0)</u>
UL TFC3	(<u>TF1, TF1)</u>
<u>UL TFC4</u>	(<u>TF2, TF0)</u>
UL TFC5	(<u>TF2, TF1)</u>
<u>UL TFC6</u>	<u>(TF3, TF0)</u>
UL_TFC7	<u>(TF3, TF1)</u>
UL_TFC8	<u>(TF4, TF0)</u>
UL_TFC9	(<u>TF4, TF1)</u>

Table A.x.z General test parameters

Parameter	Unit	Value	Comment
TFCS size		<u>10</u>	
TFCS		UL_TFC0, UL_TFC1, UL_TFC2,	
		UL TFC3, UL TFC4, UL TFC5,	
		<u>UL TFC6, UL TFC7, UL TFC8,</u>	
		<u>UL_TFC9</u>	
Power Control		<u>On</u>	
Active cell		<u>Cell 1</u>	
Maximum allowed UL TX	dBm	<u>21</u>	
power			
<u>T1</u>	<u>s</u>	<u>30</u>	
<u>T2</u>	<u>s</u>	<u>10</u>	

The test shall be performed in AWGN channel propagation conditions.

The radio conditions in the test shall be sufficient, so that decoding of the TPC commands can be made without errors.

The amount of available user data shall be sufficient to allow uplink transmission at the highest bit rate (UL TFC8 or UL_TFC9) during the entire test and it shall be ensured that the UE is using UL_TFC8 or UL_TFC9 at the end of T1.

The test shall be performed in the following way:

Before time period T1:

The allowed TFCS according to table A.x.z shall be signalled to the UE.

During time period T1:

The system simulator shall ensure that the UE output power is commanded to be between 14 to 15 dB below the UE Maximum allowed UL TX power.

During time period T2:

The system simulator shall continously send TPC_cmd=1 to the UE from the beginning of T2 until the end of T2.

<u>NOTE: This will emulate that UL_TFC8 to UL_TFC9 can not be supported beacuse the UE reaches the maximum</u> <u>UL Tx power and still UTRAN is sending power-up commands. The time from the beginning of T2 until</u> <u>the UE blocks (stops using) UL_TFC8 and UL_TFC9 shall be measured.</u>

A.6.4.2 Test Requirements

A.6.4.2.1 Interactive or Background, PS, UL: 64 kbps

The UE shall have stopped using UL_TFC8 and UL_TFC9 within [TBD] ms from beginning of time period T2.

The rate of correct tests observed during repeated tests shall be at least 90%.

NOTE:	
The delay from where	the begining of T2 can be expressed as: $T_{ramp} + T_{detect \ block} + T_{notify} + T_{modify} + T_{L1 \ proc} + T_{align \ TTL}$.
T _{ramp}	Margin added for the increase of UE output power to the UE maximum power. A margin of 1 frame (10ms) is used, i.e. 15 TPC commands.
<u>T</u> detect_block	The time needed to detect that UL_TFC8 and UL_TFC9 can no longer be supported, i.e. defines the maximum time to detect that the <i>Limited TFC Set</i> criterion is fulfilled for UL_TFC8 and UL_TFC9. This figure is currently TBD as X and Y in the general requirement, see section 6.4.2, are not finalised yet.
\underline{T}_{notify}	Equal to [15] ms, the time allowed for MAC to indicate to higher layers that UL_TFC8 and UL_TFC9 can no longer be supported.
\underline{T}_{modify}	Equal to MAX(T_{adapt_max}, T_{TTI}) = MAX(0, 40)=40ms
T_adapt_max_	Equals to 0ms for the case without codec.
T _{L1_proc}	Equals 15ms.
<u>T_{align_TTI}</u>	Align with the longest uplink TTI where the new TFC can be selected. The worst case equals 40ms in this test case.
<u>T_{TTI}</u>	See section 6.4.2. Equals 40 ms in the test case.
This gives a ma	ximum delay of $(10 + T_{detect block} + [15] + 40 + 15 + 40)$ ms from the beginning of T2.

3GPP TSG RAN WG4 Meeting #19

R4-011064

Edinburgh, Great Britain, 3rd - 7th September 2001

	CR-Form-v4			
æ	25.133 CR 143 [#] ev - [#] Current version: 4.1.0 [#]			
For <u>HELP</u> on	using this form, see bottom of this page or look at the pop-up text over the st symbols.			
Proposed change	e affects: ೫ (U)SIM ME/UE X Radio Access Network Core Network			
Title:	f TFC selection in the UE test case			
Source:	RAN WG4			
Work item code:	€ Date: ೫ 2001-08-21			
Reason for chang	Release: % Rel-4 Use one of the following categories: Use one of the following releases: F (correction) 2 A (corresponds to a correction in an earlier release) R96 B (addition of feature), R97 C (functional modification) R98 D (editorial modification) R99 D (editorial modification) R99 D (editorial modification) R99 D (editorial modification) R99 REL-4 (Release 1998) D (editorial modification) R99 D (editorial modification) R99 Release 1999) Release 1999) Detailed explanations of the above categories can be found in 3GPP TR 21.900. Ref Mathies and the approximation of a test case to verify the general requirement proposed in R4-010931. Rge: % Addition of a test case to verify the general requirement proposed in R4-010931. The proposed test covers the case when a RAB intended for packet data service (Interactive or Background) is used, i.e. no codec is used. For the case where no codec is used Tadapt_max in the general requirement equals 0.			
Consequences if not approved:	* There will be no test case to verify the general requirement on UE TFC selection performance.			
Clauses affected:	<mark>ቾ A.6.3 (new), A.6.4 (new)</mark>			
Other specs affected:	Image: Strength of the strengt of the strength of the strength of the strength of the strength			
Other comments:	육 Corresponding R99 CR in R4-011004			
How to create CRs using this form:				

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

A.6.2.2.3 Correct behaviour at Time-out

The UE shall stop transmit preambles when reaching the maximum number of preambles allowed in a cycle. The UE shall then repeat the ramping procedure until the maximum number of preamble ramping cycles are reached. No ACK/NACK shall be sent by UTRAN during this test.

The UE shall transmit 2 preambles cycles, consisting of 12 preambles in each preamble cycle.

A.6.2.2.4 Correct behaviour when reaching maximum transmit power

The UE shall not exceed the maximum allowed UL TX power configured by the UTRAN. No ACK/NACK shall be sent by UTRAN during this test.

The absolute power of any preambles belonging to the first or second preamble cycle shall not exceed 0 dBm +/-[] dB (or +/- [] dB in extreme conditions).

<u>A.6.3 Void</u>

A.6.4 Transport format combination selection in UE

A.6.4.1 Test Purpose and Environment

The purpose is to verify the UE blocks (stops using) a currently used TFC when the UE output power is not sufficient to support that TFC. This test will verify the general requirement on TFC selection in section 6.4.

A.6.4.1.1 Interactive or Background, PS, UL: 64 kbps

The test will verify the general requirement on TFC selection in section 6.4 for a RAB intended for packet data services, i.e. Interactive or Background, PS, UL: 64kbps as defined in TS 34.108.

The test parameters are given in Table A.x.x, A.x.y and Table A.x.z below. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively.

Details on the UL reference RAB in table A.x.x and A.x.y can be found in TS 34.108 section "Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH".

		Tuble That OL Telefence Kilb, I	neruenve or Duckground
	<u>TFI</u>	<u>64 kbps RAB (20ms TTI)</u>	DCCH 3.4kbps (40ms TTI)
<u>TFS</u>	TF0, bits	<u>0x336</u>	<u>0x148</u>
	<u>TF1, bits</u>	<u>1x336</u>	<u>1x148</u>
	TF2, bits	<u>2x336</u>	<u>N/A</u>
	TF3, bits	<u>3x336</u>	<u>N/A</u>
	<u>TF4, bits</u>	<u>4x336</u>	<u>N/A</u>

Table A.x.x UL reference RAB, Interactive or Background

Tabl	e A.	.y U	L T	FCI

TFCI	(64 kbps RAB, DCCH)
UL_TFC0	<u>(TF0, TF0)</u>
UL_TFC1	(<u>TF0, TF1)</u>

TFCI	(64 kbps RAB, DCCH)
UL TFC2	<u>(TF1, TF0)</u>
<u>UL TFC3</u>	<u>(TF1, TF1)</u>
<u>UL_TFC4</u>	<u>(TF2, TF0)</u>
<u>UL_TFC5</u>	<u>(TF2, TF1)</u>
<u>UL_TFC6</u>	<u>(TF3, TF0)</u>
<u>UL_TFC7</u>	<u>(TF3, TF1)</u>
UL_TFC8	<u>(TF4, TF0)</u>
UL_TFC9	<u>(TF4, TF1)</u>

Table A.x.z General test parameters

Parameter	<u>Unit</u>	Value	Comment
TFCS size		10	
TFCS		UL_TFC0, UL_TFC1, UL_TFC2,	
		<u>UL_TFC3, UL_TFC4, UL_TFC5,</u> <u>UL_TFC6, UL_TFC7, UL_TFC8,</u>	
		<u>UL_TFC9</u>	
Power Control		<u>On</u>	
Active cell		<u>Cell 1</u>	
Maximum allowed UL TX	<u>dBm</u>	<u>21</u>	
power			
<u>T1</u>	<u>S</u>	<u>30</u>	
<u>T2</u>	<u>s</u>	<u>10</u>	

The test shall be performed in AWGN channel propagation conditions.

The radio conditions in the test shall be sufficient, so that decoding of the TPC commands can be made without errors.

The amount of available user data shall be sufficient to allow uplink transmission at the highest bit rate (UL_TFC8 or UL_TFC9) during the entire test and it shall be ensured that the UE is using UL_TFC8 or UL_TFC9 at the end of T1.

The test shall be performed in the following way:

Before time period T1:

The allowed TFCS according to table A.x.z shall be signalled to the UE.

During time period T1:

The system simulator shall ensure that the UE output power is commanded to be between 14 to 15 dB below the UE Maximum allowed UL TX power.

During time period T2:

The system simulator shall continously send TPC_cmd=1 to the UE from the beginning of T2 until the end of T2.

NOTE: This will emulate that UL TFC8 to UL TFC9 can not be supported beacuse the UE reaches the maximum UL Tx power and still UTRAN is sending power-up commands. The time from the beginning of T2 until the UE blocks (stops using) UL_TFC8 and UL_TFC9 shall be measured.

A.6.4.2 Test Requirements

A.6.4.2.1 Interactive or Background, PS, UL: 64 kbps

The UE shall have stopped using UL TFC8 and UL TFC9 within [TBD] ms from beginning of time period <u>T2.</u>

The rate of correct tests observed during repeated tests shall be at least 90%.

NOTE:

The delay from the begin	ning of T2 can be expr	ressed as: $T_{ramp} + T_{de}$	$t_{tect block} + T_{notify} + T_{m}$	$\frac{1}{10000000000000000000000000000000000$
<u>Talign</u> TTI, when			<u> </u>	<u> </u>

<u>T_{ramp}</u>	Margin added for the increase of UE output power to the UE maximum power. A
<u> </u>	margin of 1 frame (10ms) is used, i.e. 15 TPC commands.

- T_detect_block
 The time needed to detect that UL_TFC8 and UL_TFC9 can no longer be supported, i.e. defines the maximum time to detect that the *Limited TFC Set* criterion is fulfilled for UL_TFC8 and UL_TFC9. This figure is currently TBD as X and Y in the general requirement, see section 6.4.2, are not finalised yet.
- T_{notify}
 Equal to [15] ms, the time allowed for MAC to indicate to higher layers that UL_TFC8 and UL_TFC9 can no longer be supported.
- <u>**T**</u>_{modify} <u>**Equal to MAX**($T_{adapt max}, T_{TTI}$) = MAX(0, 40)=40ms</u>
- <u>T_{adapt max}</u> <u>Equals to 0ms for the case without codec.</u>

<u>T_{L1_proc}</u> <u>Equals 15ms.</u>

- Talign_TTI
 Align with the longest uplink TTI where the new TFC can be selected. The worst case equals 40ms in this test case.
- <u>T_{TTI}</u> <u>See section 6.4.2. Equals 40 ms in the test case.</u>

This gives a maximum delay of $(10 + T_{detect_{block}} + [15] + 40 + 15 + 40)$ ms from the beginning of T2.

3GPP TSG RAN WG4 Meeting #19

R4-011012

Edinburgh, Great Britain, 3rd - 7th September 2001

							CR-Form-v4
CHANGE REQUEST							
ж	<mark>25.133</mark>	CR 144	ж ел	- #	Current vers	ion: 3.6.0	ж
For HELP on using this form, see bottom of this page or look at the pop-up text over the # symbols.							
Proposed change a	ffects:	(U)SIM	ME/UE X	Radio Ad	ccess Networl	k X Core Ne	etwork
Title: ೫	Periodic a	and event trigge	ered reporting	of GSM ce	ells in CELL_E	ОСН	
Source: ೫	RAN WG	4					
Work item code: ₩	TEI4				Date: ೫	2001-07-11	
	Use <u>one</u> of F (con A (cor B (add C (fun D (edi Detailed exp	the following cate rection) responds to a co dition of feature), ctional modificati torial modification blanations of the 3GPP <u>TR 21.900</u>	rrection in an e on of feature) n) above categor		2	Rel99 the following rel (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5)	
Reason for change:	repo	ently there are rting of FDD an ered reporting o	d TDD cells i	n 25.133. R	Requirements		
Summary of change	e: # Gen	eral requiremer	nt and a test o	<mark>ase are ad</mark>	ded.		
Consequences if not approved:	# Ther	e will be no req	uirements for	the reporti	ng of measur	ements on GS	M cells.
Clauses affected:	₩ 8.1.2	2.5.1, 8.1.2.5.3	(new), 8,1,2,5	.4 (new), A	.8.4 (new)		
Other specs affected:	ж О Х Те	ther core specifiest specification &M Specification	ications	¥ 34.121			
Other comments:	ж						

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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.

8.1.2.5.1 GSM carrier RSSI

A UE supporting GSM measurements using compressed mode shall meet the minimum number of GSM RSSI carrier measurements specified in table 8.4. This measurement shall be based on a transmission gap pattern sequence with purpose "GSM carrier RSSI measurements"

In order for the requirements in this subsection to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose GSM carrier RSSI measurements using the following combinations for TGL1, TGL2 and TGD:

TGL1 [slots]	TGL2 [slots]	TGD [slots]
3	-	undefined
4	-	undefined
5	-	undefined
7	-	undefined
10	-	undefined
14	-	undefined
3	3	15269
4	4	15269
5	5	15269
7	7	15269
10	10	15269
14	14	15269

Table 8.3

In the CELL_DCH state the measurement period, $T_{Measurement Period, GSM_{2}}$ for the GSM carrier RSSI measurement is 480 ms.

The UE shall meet the measurement accuracy requirements stated for RXLEV in TS 05.08, when the given measurement time allows the UE to take at least 3 GSM carrier RSSI samples per GSM carrier in the monitored set during the measurement period.

TGL	Number of GSM carrier RSSI samples in each gap.					
3	1					
4	2					
5	3					
7	6					
10	10					
14	15					

Table 8.4

In case the UE is not able to acquire the required number of samples per GSM carrier during one measurement period, the UE shall measure as many GSM carriers as possible during that measurement period using at least 3 samples per GSM carrier. The GSM carriers that were not measured during that measurement period shall be measured in the following measurement periods. This means that, in this particular case, the L1 reporting period to higher layers of a GSM neighbour can be a multiple of the measurement period.

8.1.2.5.2 BSIC verification

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose GSM Initial BSIC identification or with measurement purpose GSM BSIC reconfirmation, using the following combinations for TGL1, TGL2 and TGD:

TGL1 [slots]	TGL2 [slots]	TGD [slots]
5	-	undefined
7	-	undefined
10	-	undefined
14	-	undefined
5	5	15269
7	7	15269
10	10	15269
14	14	15269

Table 8.5

The procedure for BSIC verification on a GSM cell can be divided into the following two tasks:

Initial BSIC identification

Includes searching for the BSIC and decoding the BSIC for the first time when there is no knowledge about the relative timing between the FDD and GSM cell. The UE shall trigger the initial BSIC identification within the available transmission gap pattern sequence with purpose "GSM Initial BSIC identification". The requirements for Initial BSIC identification can be found in 8.1.2.5.2.1.

BSIC re-confirmation

Tracking and decoding the BSIC of a GSM cell after initial BSIC identification is performed. The UE shall trigger the BSIC re-confirmation within the available transmission gap pattern sequence with purpose "GSM BSIC re-confirmation". The requirements for BSIC re-confirmation can be found in 8.1.2.5.2.2.

Measurements on a GSM cell can be requested with BSIC verified or BSIC non-verified. If GSM measurements are requested with BSIC verified the UE shall be able to report the GSM cells with BSIC verified for those cells where the verification of BSIC has been successful.

If the network requests measurements on a GSM cell with BSIC verified, the UE shall behave as follows:

- The UE shall perform GSM carrier RSSI measurements according to Section 8.1.2.5.1 when ever a transmission gap pattern sequence with the purposes "GSM carrier RSSI measurements" is provided and the UE shall perform measurement reporting as defined in Section 8.6.7.6 of [16].
- The UE shall perform BSIC identification according to Section 8.1.2.5.2.1 when a "GSM Initial BSIC identification" transmission gap pattern sequence is activated. The UE shall use the last available GSM carrier RSSI measurement results for arranging GSM cells in signal strength order for performing BSIC identification.
- The UE shall perform BSIC re-confirmation according to Section 8.1.2.5.2.2 when a "GSM BSIC reconfirmation" transmission gap pattern sequence is activated.
- If a "GSM BSIC re-confirmation" transmission gap pattern sequence is not activated in parallel to a "GSM Initial BSIC identification" transmission gap pattern sequence or within one frame from the deactivation of a "GSM Initial BSIC identification" transmission gap pattern sequence, the BSIC shall be considered to be non-verified after the UE has performed one event evaluation or periodic reporting evaluation with verified BSIC and the corresponding reporting is required after the evaluation.

The UE shall perform event evaluation for event-triggered reporting after the BSIC has been verified for a GSM cell. The UE shall use the last available GSM carrier RSSI measurement results in event evaluation and event-triggered reporting. Periodic reports shall be triggered according to the given reporting period even if the BSIC of a GSM cell has not been verified as defined in Sections 8.6.7.5 and 8.6.7.6 of [16]. Non verified BSIC shall be indicated in the measurement report.

The BSIC of a GSM cell is considered to be "verified" if the UE has decoded the SCH of the BCCH carrier and identified the BSIC at least one time (initial BSIC identification) and from that moment the BSIC shall be re-confirmed at least once every $T_{re-confirm_abort}$ seconds. Otherwise the BSIC of the GSM cell is considered as "non-verified". If a transmission gap pattern sequence with a purpose "GSM BSIC re-confirmation" is not activated by the network after BSIC identified or the "GSM BSIC re-confirmation" transmission gap pattern sequence is deactivated, the UE shall behave as described previously in this section.

The parameters $N_{identify_abort}$ and $T_{re-confirm_abort}$ are defined by higher layers and are signalled to the UE together with the transmission gap pattern sequence. $N_{identify_abort}$ indicates the maximum number of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure. $T_{re-confirm_abort}$ indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure.

The UE shall be able to decode a BSIC within a transmission gap when the time difference between the middle of the received GSM synchronisation burst at the UE and the middle of the effective transmission gap is within the limits specified in table 8.6.

The effective transmission gap is calculated by assuming both UL and DL compressed mode and applying the worstcase values for UL/DL timing offset and pilot field length of last DL gap slot.

Table 8.6: The gap length and maximu	m time difference for BSIC verification
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Gap length [slots]	Maximum time difference [μs]
5	± 500
7	± 1200
10	± 2200
14	± 3500

The UE shall be able to perform BSIC verification at levels down to the reference sensitivity level or reference interference levels as specified in TS 05.05.

8.1.2.5.2.1 Initial BSIC identification

This measurement shall be based on a transmission gap pattern sequence with the purpose "GSM Initial BSIC identification"

For GSM cells that are requested with BSIC verified the UE shall attempt to decode the SCH on the BCCH carrier of the 8 strongest BCCH carriers of the GSM cells indicated in the measurement control information. The UE shall give priority for BSIC decoding attempts in decreasing signal strength order to BSIC carriers with unknown BSIC. The strongest BCCH carrier is defined as the BCCH carrier having the highest measured GSM carrier RSSI value after layer 3 filtering. The GSM signal strength levels used in BSIC identification for arranging GSM cells in signal strength order shall be based on the latest GSM carrier RSSI measurement results available.

When the UE attempts to decode the BSIC of one GSM BCCH carrier with unknown BSIC, the UE shall use all available transmission gaps, within the transmission gap pattern sequence with the purpose "GSM Initial BSIC identification", to attempt to decode the BSIC from that GSM BCCH carrier.

If the BSIC of the GSM BCCH carrier has been successfully decoded the UE shall immediately continue BSIC identification with the next GSM BCCH carrier, in signal strength order, with unknown BSIC. The GSM cell for which the BSIC has been successfully identified shall be moved to the BSIC re-confirmation procedure.

If the UE has not successfully decoded the BSIC of the GSM BCCH carrier within N_{identify_abort} successive patterns, the UE shall abort the BSIC identification attempts for that GSM BCCH carrier. The UE shall continue to try to perform BSIC identification of the next GSM BCCH carrier in signal strength order. The GSM BCCH carrier for which the BSIC identification failed shall not be re-considered for BSIC identification until BSIC identification attempts have been made for all the rest of the 8 strongest GSM BCCH carriers in the monitored set with unknown BSIC.

 $N_{identify_abort}$ values are given for a set of reference patterns in table 8.7. $T_{identify_abort}$ is the elapsed time during $N_{identify_abort}$ transmission gap patterns (informative). The figures given in table 8.7 represent the number of patterns required to guarantee at least two attempts to decode the BSIC for one GSM BCCH carrier.

	TGL1 [slots]	TGL2 [slots]	TGD [slots]	TGPL1 [frames]	TGPL2 [frames]	T _{identify abort} [S]	N _{identify_abort} [patterns]
Pattern 1	7	-	undefin ed	3	TGPL1	1.53	51
Pattern 2	7	-	undefin ed	8	TGPL1	5.20	65
Pattern 3	7	7	47	8	TGPL1	2.00	25
Pattern 4	7	7	38	12	TGPL1	2.88	24
Pattern 5	14	-	undefin ed	8	TGPL1	1.76	22
Pattern 6	14	-	undefin ed	24	TGPL1	5.04	21
Pattern 7	14	14	45	12	TGPL1	1.44	12
Pattern 8	10	-	undefin ed	12	TGPL1	2.76	23
Pattern 9	10	10	75	12	TGPL1	1.56	13

Table 8.7: The worst-case time for identification of one previously not identified GSM cell

8.1.2.5.2.2 BSIC re-confirmation

The requirements of this section are applicable for BSIC re-confirmation.

The UE shall maintain the timing information of 8 identified GSM cells. Initial timing information is obtained from the initial BSIC identification. The timing information shall be updated every time the BSIC is decoded.

For each transmission gap of a transmission gap pattern sequence with the measurement purpose "GSM BSIC reconfirmation", the UE shall attempt to decode the BSIC falling within the effective gap duration. If more than one BSIC can be decoded within the same gap, priority shall be given to the least recently decoded BSIC.

If the UE fails to decode the BSIC after two successive attempts or if the UE has not been able to re-confirm the BSIC for a GSM cell within $T_{re-confirm_abort}$ seconds, the UE shall abort the BSIC re-confirmation attempts for that GSM cell. The GSM cell shall be treated as a new GSM cell with unidentified BSIC and the GSM cell shall be moved to the initial BSIC identification procedure, see section 8.1.2.5.2.1. The UE shall be able to make BSIC re-confirmation attempts for the 8 strongest GSM cells in the monitored list.

N_{re-confirm abort} is the number of transmission gap patterns executed during T_{re-confirm abort} (informative).

	TGL1 [slots]	TGL2 [slots]	TGD [slots]	TGPL1 [frames]	TGPL2 [frames]	T _{re-confirm_abort} [s]	N _{re-confirm_abort} [patterns]
Pattern 1	7	-	undefined	3	TGPL1	1.29	43
Pattern 2	7	-	undefined	8	TGPL1	4.96	62
Pattern 3	7	-	undefined	15	TGPL1	7.95	53
Pattern 4	7	7	69	23	TGPL1	9.89	43
Pattern 5	7	7	69	8	TGPL1	2.64	33
Pattern 6	14	-	undefined	8	TGPL1	1.52	19
Pattern 7	14	14	60	8	TGPL1	0.80	10
Pattern 8	10	-	undefined	8	TGPL1	1.76	22
Pattern 9	10	-	undefined	24	TGPL1	4.80	20
Pattern 10	7	7	47	8	TGPL1	1.76	22
Pattern 11	7	7	38	12	TGPL1	2.64	22
Pattern 12	14	-	undefined	24	TGPL1	4.80	20
Pattern 13	14	14	45	12	TGPL1	1.20	10
Pattern 14	10	-	undefined	12	TGPL1	2.52	21
Pattern 15	10	10	75	12	TGPL1	1.32	11

Table 8.8: The worst-case time for BSIC re-confirmation of one GSM cell

8.1.2.5.3 Periodic Reporting

Reported measurements in periodically triggered measurement reports shall meet the requirements in section 9.

8.1.2.5.4 Event Triggered Reporting

Reported measurements in event triggered measurement reports shall meet the requirements in section 9.

The UE shall not send any event triggered measurement reports, as long as the reporting criteria is not fulfilled.

The measurement reporting delay is defined as the time between any event that will trigger a measurement report until the UE starts to transmit the measurement report over the Uu interface. This requirement assumes that that the measurement report is not delayed by other RRC signalling on the DCCH. This measurement reporting delay excludes a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH. The delay uncertainty is twice the TTI of the uplink DCCH.

The event triggered reporting delay requirement is valid when the UE for each GSM carrier in the monitored set can take the required number of samples during the measurement period $T_{Measurement Period, GSM}$ (see section 8.1.2.5.1).

The event triggered measurement reporting delay for a GSM cell with verified BSIC, measured without L3 filtering shall be less than $2*T_{Measurement Period, GSM}$, where $T_{Measurement Period, GSM}$ is defined in Section 8.1.2.5.1. When L3 filtering is used an additional delay can be expected. For a GSM cell with non-verified BSIC an additional delay according to section 8.1.2.5.2.1 Initial BSIC identification can be expected.

A.8.3.1.2 Test Requirements

- a) The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than [5] seconds from the start of time period T2.
- b) The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

A.8.4 GSM measurements

<u>A.8.4.1 Correct reporting of GSM neighbours in AWGN propagation</u> <u>condition</u>

A.8.4.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter-RAT GSM measurements. The test will partly verify the requirements in section 8.1.2.5.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.x.y, A.x.z and A.x.w below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3B and 3C shall be used.

Table A.x.y: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

	<u>Unit</u>	Value	<u>Comment</u>
DCH parameters		DL Reference Measurement Channel	As specified in TS 25.101 section A.3.1
		<u>12.2 kbps</u>	
Power Control		<u>On</u>	
<u>Target quality value</u> on DTCH	<u>BLER</u>	0.01	
Compressed mode patterns			
- GSM carrier RSSI		DL Compressed mode reference	As specified in table A.22 TS 25.101
measurement		pattern 2 in Set 2	section A.5
- GSM Initial BSIC		Pattern 2	As specified in section 8.1.2.5.2.1 table
identification			<u>8.7.</u>
- GSM BSIC re-		Pattern 2	As specified in section 8.1.2.5.2.2 table
confirmation			<u>8.8.</u>
Active cell		Cell 1	
Inter-RAT		GSM Carrier RSSI	
measurement			
<u>guantity</u>			
BSIC verification required		required	
Threshold other	<u>dBm</u>	<u>-80</u>	Absolute GSM carrier RSSI threshold
<u>system</u>			for event 3B and 3C.
<u>Hysteresis</u>	<u>dB</u>	<u>0</u>	
Time to Trigger	<u>ms</u>	<u>0</u>	
Filter coefficient		<u>0</u>	
Monitored cell list		24 FDD neighbours on Channel 1	Measurement control information is
<u>size</u>		6 GSM neighbours including ARFCN 1	sent before the compressed mode patterns starts.
N Identify abort		<u>65</u>	Taken from table 8.7.
T Reconfirm abort		<u>5.0</u>	Taken from table 8.8.
<u>T1</u>	<u>s</u>	20	
<u>T2</u>	S	5	
T3	S	5	

Table A.x.z: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 1)

Parameter	Unit	<u>Cell 1</u>		
		<u>T1, T2, T3</u>		
UTRA RF Channel		Channel 1		
Number				
CPICH_Ec/lor	dB	<u>-10</u>		
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>		
SCH_Ec/lor	<u>dB</u>	<u>-12</u>		
PICH_Ec/lor	dB	-15		
DPCH_Ec/lor	dB	Note 1		
OCNS		Note 2		
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>		
I _{oc}	dBm/	<u>-85</u>		
<u> </u>	<u>3.84</u>			
	MHz			
CPICH_Ec/lo	dB	<u>-13</u>		
Propagation		AWGN		
Condition				

Note 1: The DPCH level is controlled by the power control loop.

Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{α} .

Table A.x.w: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2)

<u>Parameter</u>	<u>Unit</u>	<u>Cell 2</u>		
		<u>T1</u>	<u>T2</u>	<u>T3</u>
Absolute RF Channel Number		ARFCN	1	
<u>RXLEV</u>	<u>dBm</u>	<u>-85</u>	<u>-75</u>	<u>-85</u>

A.8.4.1.2 Test Requirements

The UE shall send one Event 3C triggered measurement report for Cell2, with a measurement reporting delay less than 960 ms from the beginning of time period T2.

The UE shall send one Event 3B triggered measurement report for Cell2, with a measurement reporting delay less than 960 ms from the beginning of time period T3.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 Meeting #19

R4-011065

Edinburgh, Great Britain, 3rd - 7th September 2001

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Clauses affected:	<mark>೫ 8.1</mark> .	<mark>2.5.1, 8.1.2</mark>	.5.3 (new), 8.1	.2.5.4 (new),	A.8.4 (new)		
Other specs affected:	ר 🗙	Other core s Test specific D&M Specifi		¥ 34.12	1		
Other comments:	ដ <mark>Cor</mark>	responding	R99 CR in R4	011012			
How to create CRs	using this	form:					

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

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

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

8.1.2.5.1 GSM carrier RSSI

A UE supporting GSM measurements using compressed mode shall meet the minimum number of GSM RSSI carrier measurements specified in table 8.4. This measurement shall be based on a transmission gap pattern sequence with purpose "GSM carrier RSSI measurements"

In order for the requirements in this subsection to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose GSM carrier RSSI measurements using the following combinations for TGL1, TGL2 and TGD:

TGL1 [slots]	TGL2 [slots]	TGD [slots]
3	-	undefined
4	-	undefined
5	-	undefined
7	-	undefined
10	-	undefined
14	-	undefined
3	3	15269
4	4	15269
5	5	15269
7	7	15269
10	10	15269
14	14	15269

Table 8	3.3
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In the CELL_DCH state the measurement period, <u>T_{Measurement Period, GSM</u>, for the GSM carrier RSSI measurement is 480 ms.</u>}

The UE shall meet the measurement accuracy requirements stated for RXLEV in TS 45.008, when the given measurement time allows the UE to take at least 3 GSM carrier RSSI samples per GSM carrier in the monitored set during the measurement period.

TGL	Number of GSM carrier RSSI samples in each gap.
3	1
4	2
5	3
7	6
10	10
14	15

Table 8.4

In case the UE is not able to acquire the required number of samples per GSM carrier during one measurement period, the UE shall measure as many GSM carriers as possible during that measurement period using at least 3 samples per GSM carrier. The GSM carriers that were not measured during that measurement period shall be measured in the following measurement periods. This means that, in this particular case, the L1 reporting period to higher layers of a GSM neighbour can be a multiple of the measurement period.

8.1.2.5.2 BSIC verification

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose GSM Initial BSIC identification or with measurement purpose GSM BSIC re-confirmation, using the following combinations for TGL1, TGL2 and TGD:

TGL1 [slots]	TGL2 [slots]	TGD [slots]
5	-	undefined
7	-	undefined
10	-	undefined
14	-	undefined
5	5	15269
7	7	15269
10	10	15269
14	14	15269

Table 8.5

The procedure for BSIC verification on a GSM cell can be divided into the following two tasks:

Initial BSIC identification

Includes searching for the BSIC and decoding the BSIC for the first time when there is no knowledge about the relative timing between the FDD and GSM cell. The UE shall trigger the initial BSIC identification within the available transmission gap pattern sequence with purpose "GSM Initial BSIC identification". The requirements for Initial BSIC identification can be found in 8.1.2.5.2.1.

BSIC re-confirmation

Tracking and decoding the BSIC of a GSM cell after initial BSIC identification is performed. The UE shall trigger the BSIC re-confirmation within the available transmission gap pattern sequence with purpose "GSM BSIC re-confirmation". The requirements for BSIC re-confirmation can be found in 8.1.2.5.2.2.

Measurements on a GSM cell can be requested with BSIC verified or BSIC non-verified. If GSM measurements are requested with BSIC verified the UE shall be able to report the GSM cells with BSIC verified for those cells where the verification of BSIC has been successful.

If the network requests measurements on a GSM cell with BSIC verified, the UE shall behave as follows:

- The UE shall perform GSM carrier RSSI measurements according to Section 8.1.2.5.1 when ever a transmission gap pattern sequence with the purposes "GSM carrier RSSI measurements" is provided and the UE shall perform measurement reporting as defined in Section 8.6.7.6 of [16].
- The UE shall perform BSIC identification according to Section 8.1.2.5.2.1 when a "GSM Initial BSIC identification" transmission gap pattern sequence is activated. The UE shall use the last available GSM carrier RSSI measurement results for arranging GSM cells in signal strength order for performing BSIC identification.
- The UE shall perform BSIC re-confirmation according to Section 8.1.2.5.2.2 when a "GSM BSIC reconfirmation" transmission gap pattern sequence is activated.
- If a "GSM BSIC re-confirmation" transmission gap pattern sequence is not activated in parallel to a "GSM Initial BSIC identification" transmission gap pattern sequence or within one frame from the deactivation of a "GSM Initial BSIC identification" transmission gap pattern sequence, the BSIC shall be considered to be non-verified after the UE has performed one event evaluation or periodic reporting evaluation with verified BSIC and the corresponding reporting if reporting is required after the evaluation.

The UE shall perform event evaluation for event-triggered reporting after the BSIC has been verified for a GSM cell. The UE shall use the last available GSM carrier RSSI measurement results in event evaluation and event-triggered reporting. Periodic reports shall be triggered according to the given reporting period even if the BSIC of a GSM cell has not been verified as defined in Sections 8.6.7.5 and 8.6.7.6 of [16]. Non verified BSIC shall be indicated in the measurement report.

The BSIC of a GSM cell is considered to be "verified" if the UE has decoded the SCH of the BCCH carrier and identified the BSIC at least one time (initial BSIC identification) and from that moment the BSIC shall be re-confirmed at least once every $T_{re-confirm_abort}$ seconds. Otherwise the BSIC of the GSM cell is considered as "non-verified". If a transmission gap pattern sequence with a purpose "GSM BSIC re-confirmation" is not

activated by the network after BSIC identified or the "GSM BSIC re-confirmation" transmission gap pattern sequence is deactivated, the UE shall behave as described previously in this section.

The parameters $N_{identify_abort}$ and $T_{re-confirm_abort}$ are defined by higher layers and are signalled to the UE together with the transmission gap pattern sequence. $N_{identify_abort}$ indicates the maximum number of patterns that the UE shall use to attempt to decode the unknown BSIC of the GSM cell in the initial BSIC identification procedure. $T_{re-confirm_abort}$ indicates the maximum time allowed for the re-confirmation of the BSIC of one GSM cell in the BSIC re-confirmation procedure.

The UE shall be able to decode a BSIC within a transmission gap when the time difference between the middle of the received GSM synchronisation burst at the UE and the middle of the effective transmission gap is within the limits specified in table 8.6.

The effective transmission gap is calculated by assuming both UL and DL compressed mode and applying the worst-case values for UL/DL timing offset and pilot field length of last DL gap slot.

Table 8.6: The gap length and maximum time difference for BSIC verification

Gap length [slots]	Maximum time difference [μs]
5	± 500
7	± 1200
10	± 2200
14	± 3500

The UE shall be able to perform BSIC verification at levels down to the reference sensitivity level or reference interference levels as specified in TS 45.005.

8.1.2.5.2.1 Initial BSIC identification

This measurement shall be based on a transmission gap pattern sequence with the purpose "GSM Initial BSIC identification"

For GSM cells that are requested with BSIC verified the UE shall attempt to decode the SCH on the BCCH carrier of the 8 strongest BCCH carriers of the GSM cells indicated in the measurement control information. The UE shall give priority for BSIC decoding attempts in decreasing signal strength order to BSIC carriers with unknown BSIC. The strongest BCCH carrier is defined as the BCCH carrier having the highest measured GSM carrier RSSI value after layer 3 filtering. The GSM signal strength levels used in BSIC identification for arranging GSM cells in signal strength order shall be based on the latest GSM carrier RSSI measurement results available.

When the UE attempts to decode the BSIC of one GSM BCCH carrier with unknown BSIC, the UE shall use all available transmission gaps, within the transmission gap pattern sequence with the purpose "GSM Initial BSIC identification", to attempt to decode the BSIC from that GSM BCCH carrier.

If the BSIC of the GSM BCCH carrier has been successfully decoded the UE shall immediately continue BSIC identification with the next GSM BCCH carrier, in signal strength order, with unknown BSIC. The GSM cell for which the BSIC has been successfully identified shall be moved to the BSIC re-confirmation procedure.

If the UE has not successfully decoded the BSIC of the GSM BCCH carrier within $N_{identify_abort}$ successive patterns, the UE shall abort the BSIC identification attempts for that GSM BCCH carrier. The UE shall continue to try to perform BSIC identification of the next GSM BCCH carrier in signal strength order. The GSM BCCH carrier for which the BSIC identification failed shall not be re-considered for BSIC identification attempts have been made for all the rest of the 8 strongest GSM BCCH carriers in the monitored set with unknown BSIC.

 $N_{identify_abort}$ values are given for a set of reference patterns in table 8.7. $T_{identify_abort}$ is the elapsed time during $N_{identify_abort}$ transmission gap patterns (informative). The figures given in table 8.7 represent the number of patterns required to guarantee at least two attempts to decode the BSIC for one GSM BCCH carrier.

	TGL1 [slots]	TGL2 [slots]	TGD [slots]	TGPL1 [frames]	TGPL2 [frames]	T _{identify abort} [S]	N _{identify_abort} [patterns]
Pattern 1	7	-	undefin ed	3	TGPL1	1.53	51
Pattern 2	7	-	undefin ed	8	TGPL1	5.20	65
Pattern 3	7	7	47	8	TGPL1	2.00	25
Pattern 4	7	7	38	12	TGPL1	2.88	24
Pattern 5	14	-	undefin ed	8	TGPL1	1.76	22
Pattern 6	14	-	undefin ed	24	TGPL1	5.04	21
Pattern 7	14	14	45	12	TGPL1	1.44	12
Pattern 8	10	-	undefin ed	12	TGPL1	2.76	23
Pattern 9	10	10	75	12	TGPL1	1.56	13

Table 8.7: The worst-case time for identification of one previously not identified GSM cell

8.1.2.5.2.2 BSIC re-confirmation

The requirements of this section are applicable for BSIC re-confirmation.

The UE shall maintain the timing information of 8 identified GSM cells. Initial timing information is obtained from the initial BSIC identification. The timing information shall be updated every time the BSIC is decoded.

For each transmission gap of a transmission gap pattern sequence with the measurement purpose "GSM BSIC re-confirmation", the UE shall attempt to decode the BSIC falling within the effective gap duration. If more than one BSIC can be decoded within the same gap, priority shall be given to the least recently decoded BSIC.

If the UE fails to decode the BSIC after two successive attempts or if the UE has not been able to re-confirm the BSIC for a GSM cell within $T_{re-confirm_abort}$ seconds, the UE shall abort the BSIC re-confirmation attempts for that GSM cell. The GSM cell shall be treated as a new GSM cell with unidentified BSIC and the GSM cell shall be moved to the initial BSIC identification procedure, see section 8.1.2.5.2.1. The UE shall be able to make BSIC re-confirmation attempts for the 8 strongest GSM cells in the monitored list.

 $N_{re-confirm_abort}$ is the number of transmission gap patterns executed during $T_{re-confirm_abort}$ (informative).

	TGL1 [slots]	TGL2 [slots]	TGD [slots]	TGPL1 [frames]	TGPL2 [frames]	T _{re-confirm_abort} [s]	N _{re-confirm_abort}
Pattern 1	7	-	undefined	3	TGPL1	1.29	43
Pattern 2	7	-	undefined	8	TGPL1	4.96	62
Pattern 3	7	-	undefined	15	TGPL1	7.95	53
Pattern 4	7	7	69	23	TGPL1	9.89	43
Pattern 5	7	7	69	8	TGPL1	2.64	33
Pattern 6	14	-	undefined	8	TGPL1	1.52	19
Pattern 7	14	14	60	8	TGPL1	0.80	10
Pattern 8	10	-	undefined	8	TGPL1	1.76	22
Pattern 9	10	-	undefined	24	TGPL1	4.80	20
Pattern 10	7	7	47	8	TGPL1	1.76	22
Pattern 11	7	7	38	12	TGPL1	2.64	22
Pattern 12	14	-	undefined	24	TGPL1	4.80	20
Pattern 13	14	14	45	12	TGPL1	1.20	10
Pattern 14	10	-	undefined	12	TGPL1	2.52	21
Pattern 15	10	10	75	12	TGPL1	1.32	11

Table 8.8: The worst-case time for BSIC re-confirmation of one GSM cell

8.1.2.5.3 Periodic Reporting

Reported measurements in periodically triggered measurement reports shall meet the requirements in section 9.

8.1.2.5.4 Event Triggered Reporting

Reported measurements in event triggered measurement reports shall meet the requirements in section 9.

The UE shall not send any event triggered measurement reports, as long as the reporting criteria is not fulfilled.

The measurement reporting delay is defined as the time between any event that will trigger a measurement report until the UE starts to transmit the measurement report over the Uu interface. This requirement assumes that that the measurement report is not delayed by other RRC signalling on the DCCH. This measurement reporting delay excludes a delay uncertainty resulted when inserting the measurement report to the TTI of the uplink DCCH. The delay uncertainty is twice the TTI of the uplink DCCH.

The event triggered reporting delay requirement is valid when the UE for each GSM carrier in the monitored set can take the required number of samples during the measurement period $T_{Measurement Period, GSM}$ (see section 8.1.2.5.1).

The event triggered measurement reporting delay for a GSM cell with verified BSIC, measured without L3 filtering shall be less than $2^{*}T_{Measurement Period, GSM}$, where $T_{Measurement Period, GSM}$ is defined in Section 8.1.2.5.1. When L3 filtering is used an additional delay can be expected. For a GSM cell with non-verified BSIC an additional delay according to section 8.1.2.5.2.1 Initial BSIC identification can be expected.

A.8.3.1.2 Test Requirements

- a) The UE shall send one Event 2C triggered measurement report, with a measurement reporting delay less than [5] seconds from the start of time period T2.
- b) The UE shall not send any measurement reports, as long as the reporting criteria are not fulfilled.

A.8.4 GSM measurements

A.8.4.1 Correct reporting of GSM neighbours in AWGN propagation condition

A.8.4.1.1 Test Purpose and Environment

The purpose of this test is to verify that the UE makes correct reporting of an event when doing inter-RAT GSM measurements. The test will partly verify the requirements in section 8.1.2.5.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.x.y, A.x.z and A.x.w below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3B and 3C shall be used.

Table A.x.y: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	<u>Unit</u>	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		<u>On</u>	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns			
- GSM carrier RSSI measurement		DL Compressed mode reference pattern 2 in Set 2	As specified in table A.22 TS 25.101 section A.5
- GSM Initial BSIC identification		Pattern 2	As specified in section 8.1.2.5.2.1 table 8.7.
- GSM BSIC re- confirmation		Pattern 2	As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		required	
Threshold other system	<u>dBm</u>	<u>-80</u>	Absolute GSM carrier RSSI threshold for event 3B and 3C.
<u>Hysteresis</u>	<u>dB</u>	<u>0</u>	
Time to Trigger	<u>ms</u>	<u>0</u>	
Filter coefficient		<u>0</u>	
Monitored cell list		24 FDD neighbours on Channel 1	Measurement control information is
size		6 GSM neighbours including ARFCN 1	sent before the compressed mode patterns starts.
N Identify abort		<u>65</u>	Taken from table 8.7.
T Reconfirm abort		5.0	Taken from table 8.8.
T1	<u>s</u>	20	
T2	S	5	
T3	S	5	

Table A.x.z: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 1)

Parameter	Unit	Cell 1
		<u>T1, T2, T3</u>
UTRA RF Channel		Channel 1
<u>Number</u>		
CPICH_Ec/lor	<u>dB</u>	<u>-10</u>
PCCPCH_Ec/lor	<u>dB</u>	<u>-12</u>
SCH Ec/lor	<u>dB</u>	<u>-12</u>
PICH Ec/lor	<u>dB</u>	<u>-15</u>
DPCH_Ec/lor	<u>dB</u>	Note 1
<u>OCNS</u>		Note 2
\hat{I}_{or}/I_{oc}	<u>dB</u>	<u>0</u>
I _{oc}	<u>dBm/</u>	<u>-85</u>
	<u>3.84</u>	
	MHz	
CPICH_Ec/lo	<u>dB</u>	<u>-13</u>
Propagation		AWGN
Condition		

Note 1: The DPCH level is controlled by the power control loop.

Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal $to I_{ur}$.

Table A.x.w: Cell specific test parameters for Correct reporting of GSM neighbours in AWGN propagation condition (cell 2)

Parameter	<u>Unit</u>	<u>Cell 2</u>		
		<u>T1</u>	<u>T2</u>	<u>T3</u>
Absolute RF Channel Number		ARFCN	<u>1</u>	
<u>RXLEV</u>	<u>dBm</u>	<u>-85</u>	<u>-75</u>	<u>-85</u>

A.8.4.1.2 Test Requirements

The UE shall send one Event 3C triggered measurement report for Cell2, with a measurement reporting delay less than 960 ms from the beginning of time period T2.

The UE shall send one Event 3B triggered measurement report for Cell2, with a measurement reporting delay less than 960 ms from the beginning of time period T3.

The UE shall not send event triggered measurement reports, as long as the reporting criteria are not fulfilled.

The rate of correct events observed during repeated tests shall be at least 90%.