Source: T1

Title: CR's to TS 34.122 v3.7.0 and v4.3.0 for approval

Agenda item: 5.1.3

Document for: Approval

This document contains 8 CRs to TS 34.122 v3.7.0 and 10 CRs to TS 34.122 v4.3.0. These CRs have been agreed by T1 and are put forward to TSG T for approval.

CRs related to maintenance of R99:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version -New	Doc-2nd-Level	Work item
34.122	086		R99	Cell Re-selection in CELL_PCH test case Rel99	F	3.7.0	3.8.0	T1-020229	
34.122	087		R99	Cell Re-selection in URA_PCH test case Rel99	F	3.7.0	3.8.0	T1-020230	
34.122	088		R99	TDD/TDD Intra-frequency Handover R99	F	3.7.0	3.8.0	T1-020255	
34.122	089		R99	TDD/TDD Inter-frequency Handover R99	F	3.7.0	3.8.0	T1-020257	
34.122	090		R99	TDD/FDD Handover R99	F	3.7.0	3.8.0	T1-020259	
34.122	091		R99	PCCPCH Measurement Performance R99	F	3.7.0	3.8.0	T1-020261	
34.122	092		R99	Corrections to TDD/TDD Cell Re-selection in CELL_FACH state R99	F	3.7.0	3.8.0	T1-020263	
34.122	093		R99	Power Control in the Downlink for HCR Rel99	F	3.7.0	3.8.0	T1-020424	

CRs related to maintenance of Rel-4:

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version -New	Doc-2nd-Level	Work item
34.122	094		Rel-4	Cell Re-selection in CELL_PCH test case Rel4	A	4.3.0	4.4.0	T1-020233	TEI
34.122	095		Rel-4	Cell Re-selection in URA_PCH test case Rel99	A	4.3.0	4.4.0	T1-020234	TEI
34.122	096		Rel-4	TDD/TDD Intra-frequency Handover R4	A	4.3.0	4.4.0	T1-020256	TEI
34.122	097		Rel-4	TDD/TDD Inter-frequency Handover R4	A	4.3.0	4.4.0	T1-020258	TEI
34.122	098		Rel-4	TDD/FDD Handover R4	A	4.3.0	4.4.0	T1-020260	TEI
34.122	099		Rel-4	PCCPCH Measurement Performance R4	A	4.3.0	4.4.0	T1-020262	TEI
34.122	100		Rel-4	Corrections to TDD/TDD Cell Re-selection in CELL_FACH state R4	A	4.3.0	4.4.0	T1-020264	TEI
34.122	101		Rel-4	Power Control in the Downlink for HCR Rel4	A	4.3.0	4.4.0	T1-020425	TEI

CRs related to Low Chip Rate TDD (Rel-4)

Spec	CR	Rev	Release	Subject	Cat	Version Current	Version -New	Doc-2nd-Level	Work item
34.122	102		Rel-4	Inclusion and completion of re-selection test cases for LCRTDD	F	4.3.0	4.4.0	T1-020231	LCRTDD
34.122	103		Rel-4	Power Control in the Downlink for LCRTDD	F	4.3.0	4.4.0	T1-020254	LCRTDD

CR-Form-v5

CHANGE REQUEST

✋	**TS 34.122 CR**	**086**	✋**rev**	**-**	✋	Current version:	**3.7.0**	✋

*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: ✋	Cell Re-selection in CELL_PCH test cases	
Source: ✋	T1/RF	
Work item code: ✋		***Date:*** ✋ 09/04/2002
Category: ✋ **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:*** ✋ R99 Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ✋	Test cases for cell re-selection in CELL_PCH state are missing.
Summary of change: ✋	Added test cases for cell re-selection in CELL_PCH state.
Consequences if not approved: ✋	Requirements in the core specification would not be tested.

Clauses affected: ✋	8.3.5
Other specs affected: ✋	☐ Other core specifications ✋ ☐ Test specifications ☐ O&M Specifications
Other comments: ✋	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ✋ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.5   Cell Re-selection in CELL_PCH

8.3.5.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.5.1.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell_reselection" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.5.1.2   Minimum requirement

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

> 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 $T_{evaluate\ TDD}$ of 6.4s according to TS 25.123 [2] Table 4.1 in section 4.2.2.7. |
> | 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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.5 and A.5.5.1.

8.3.5.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in CELL_PCH for the single carrier case

8.3.5.1.4   Method of test

8.3.5.1.4.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.5.1.1, and 8.3.5.1.2.

Table 8.3.5.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.5.1.2: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		**0**		**8**		**0**		**8**		**0**		**8**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Timeslot		**Cell 4**				**Cell 5**				**Cell 6**			
		0		**8**		**0**		**8**		**0**		**8**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.5.1.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.1.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "CELL_PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

i) Repeat steps d) to g) [TBD] times.

8.3.5.1.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step h), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

~~Void.~~

8.3.5.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.5.2.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.5.2.2   Minimum requirement

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

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 $T_{evaluate\ TDD}$ of 6.4s according to TS 25.123 [2] Table 4.1 in section 4.2.2.7.

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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.5 and A.5.5.2.

8.3.5.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in CELL PCH for the multi carrier case.

8.3.5.2.4   Method of test

8.3.5.2.4.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.5.2.1 and 8.3.5.2.2.

Table 8.3.5.2.1: General test parameters for Cell Re-selection in Multi carrier case

	Parameter	Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.5.2.2: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_toffset		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	6	0	6	0	0	6	0	6	-3	-3	-3	-3
PCCPCH RSCP	dBm	-67	-73			-73	-67			-76	-76		
Qoffset1s,n	dB	C1, C2: 0; C1, C3:0; C1,C4:0C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1s	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
Timeslot		Cell 4				Cell 5				Cell 6			
		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_toffset		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1s,n	dB	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			
Qhyst1s	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.5.2.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.1.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "CELL_PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

i) Repeat steps d) to g) [TBD] times.

NOTE: T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.3.5.2.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step h), the UE shall respond on cell 2 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

CR-Form-v5

CHANGE REQUEST

⌘ **TS 34.122 CR 087** ⌘**rev** **-** ⌘ Current version: **3.7.0** ⌘

*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: ⌘	Cell Re-selection in URA_PCH test cases	
Source: ⌘	T1/RF	
Work item code: ⌘		*Date:* ⌘ 09/04/2002
Category: ⌘ **F**		*Release:* ⌘ R99

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>.

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

Reason for change: ⌘	Test cases for cell re-selection in URA_PCH state are missing.
Summary of change: ⌘	Added test cases for cell re-selection in URA_PCH state.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	8.3.6

Other specs affected:	⌘ ☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&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 ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.6   Cell Re-selection in URA_PCH

8.3.6.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.6.1.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the URA UPDATE message with cause value "change of URA" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.6.1.2   Minimum requirement

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

> 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 $T_{evaluate\ TDD}$ of 6.4s according to TS25.123 [2] Table 4.1 in section 4.2.2.7.
>
> 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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.6 and A.5.6.1.

8.3.6.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in URA_PCH for the single carrier case

8.3.6.1.4   Method of test

8.3.6.1.4.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.6.1.1, and 8.3.6.1.2.

Table 8.3.6.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.6.1.2: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Timeslot		**Cell 4**				**Cell 5**				**Cell 6**			
		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.6.1.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.2.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "URA_PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

i) Repeat steps d) to g) [TBD] times.

8.3.6.1.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step h), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

8.3.58.3.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.6.2.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the URA UPDATE message with cause value "change of URA" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.6.2.2   Minimum requirement

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

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 $T_{evaluate\ TDD}$ of 6.4s according to TS 25.123 [2] Table 4.1 in section 4.2.2.7.
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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.6 and A.5.6.2.

8.3.6.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in URA_PCH for the multi carrier case.

8.3.6.2.4   Method of test

8.3.6.2.4.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.6.2.1 and 8.3.6.2.2.

Table 8.3.6.2.1: General test parameters for Cell Re-selection in Multi carrier case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.6.2.2: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	6	0	6	0	0	6	0	6	-3	-3	-3	-3
PCCPCH RSCP	dBm	-67	-73			-67	-70			-76	-76		
Qoffset1$_{s,n}$	dB	C1, C2: 0; C1, C3:0; C1,C4:0C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
Timeslot		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.6.2.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.2.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "URA PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

i) Repeat steps d) to g) [TBD] times.

NOTE: T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.3.6.2.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step h), the UE shall respond on cell 2 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

CR-Form-v3

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 102** | ⌘ rev | **-** | ⌘ Current version: | **4.3.0** | ⌘ |

*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:	⌘	Inclusion and completion of re-selection test cases for LCRTDD
Source:	⌘	Siemens AG
Work item code: ⌘	LCRTDD	***Date:*** ⌘ 30/03/2002
Category:	⌘ **F**	***Release:*** ⌘ REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential 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	*REL-4 (Release 4)*
be found in 3GPP TR 21.900.	*REL-5 (Release 5)*

Reason for change:	⌘	Cell re-selection tests for 1.28 Mcps TDD option are included

Summary of change: ⌘	8.2.2.1 Scenario 1: TDD/TDD cell re-selection single carrier case	
	The prose for LCRTDD is included.	
	References to TS 25.123 are included in 3.84 Mcps option	
	8.2.2.2 Scenario 2: TDD/TDD cell re-selection multi carrier case	
	The prose for LCRTDD is included.	
	References to TS 25.123 are included in 3.84 Mcps option	
	8.2.2.2A is included as new subsection to follow the order in core specifications for Release 4.	
	Scenario 2A: 3.84 Mcps TDD cell reselection for 1.28 Mcps TDD	
	[FFS]	
	8.2.2.3 Scenario 3: TDD/FDD Cell re-selection	
	The test case for 1.28 Mcps did reference to single carrier multi-cell case.	
	There was a mistake in some meeting when the section was restructured.	
	Now the test case for TDD/FDD Cell re-selection for 1.28 Mcps is covered.	
	8.2.2.4 Scenario 4: inter RAT cell re-selection	
	The prose for LCRTDD is included.	
	References to TS 25.123 are included in 3.84 Mcps option	

Consequences if not approved:	⌘	1.28 Mcps TDD cannot be tested properly

Clauses affected:	⌘	8.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘	Based in TS 25.123 v4.4.0		

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

8 Requirements for Support of RRM

8.1 General

Void.

8.2 Idle Mode Tasks

8.2.1 RF Cell Selection Scenario

8.2.1.1 Introduction

After a UE has switched on and a PLMN has been selected, the Cell selection process takes place, as described in TS 25.304. This process allows the UE to select a suitable cell where to camp on in order to access available services. In this process the UE can use stored information (*Stored information cell selection*) or not (*Initial cell selection*).

8.2.2 Cell Re-Selection

8.2.2.1 Scenario 1: TDD/TDD cell re-selection single carrier case

8.2.2.1.1 Definition and applicability

8.2.2.1.1.1 3,84 Mcps TDD Option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the RRC CONNECTION REQUEST message to perform a Location Registration on the new cell.

The requirements and this test apply to the 3.84 Mcps TDD UE.

8.2.2.1.1.2 1,28 Mcps TDD Option

~~Void.~~

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 SYNCH-UL sequence in the UpPTS for sending the RRC CONNECTION REQUEST to perform a Location Registration on cell 2.

This test is applicable to 1.28 Mcps TDD UE.

8.2.2.1.2 Minimum requirement

8.2.2.1.2.1 3,84 Mcps TDD Option

The cell re-selection delay shall be less than 8 s when the DRX cycle length is 1,28 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

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 $T_{evaluate\ TDD}$ of 6.4s according to Table 4.1 in section 4.2.2.7 in [2].

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.

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.1.

8.2.2.1.2.2   1,28 Mcps TDD Option

~~Void.~~

The cell re-selection delay shall be less than 8 s when the DRX cycle length is 1,28 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: $T_{evaluateNTDD} + T_{SI}$, where:

> $T_{evaluateNTDD}$:   A DRX cycle length of 1280ms is assumed for this test case, this leads to a $T_{evaluate\ NTDD}$ of 6.4s according to Table 4.1A in section 4.2 in [2].

> T_{SI}:   Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.1.

8.2.2.1.3   Test purpose

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

8.2.2.1.4   Method of test

8.2.2.1.4.1   3,84 Mcps TDD Option

8.2.2.1.4.1.1   Initial conditions

This scenario implies the presence of 1 carrier and 6 cells as given in Table 8.2.2.1.1 and Table 8.2.2.1.2. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.2.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.1.2: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
		Cell 4				**Cell 5**				**Cell 6**			
Timeslot		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.2.2.1.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for RRC CONNECTION REQUEST messages from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

8.2.2.1.4.2   1,28 Mcps TDD Option

Void.

8.2.2.1.4.2.1   Initial conditions

This scenario implies the presence of 1 carrier and 6 cells as given in Table 8.2.2.1.1A and 8.2.2.1.2A.

Table 8.2.2.1.1A: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-103	The value shall be used for all cells in the test.
Access Service Class (ASC#0) -– Persistence value		0..1	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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.1.2A: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			

Parameter	Unit	Cell 4				Cell 5				Cell 6			
Timeslot		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/1.28 MHz	-70											
Propagation Condition		AWGN											

8.2.2.1.4.2.2   Procedure

a)   The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST messages from the UE.

b)   The UE is switched on.

c)   The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d)   After 15 s, the parameters are changed as described for T2.

e)   The SS waits for RRC CONNECTION REQUEST messages from the UE.

f)   After another 15 s, the parameters are changed as described for T1.

g)   The SS waits for RRC CONNECTION REQUEST messages from the UE.

h)   Repeat steps d) to g) [TBD] times.

8.2.2.1.5   Test Requirements

8.2.2.1.5.1   3,84 Mcps TDD Option

1)   In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2)   In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.1.5.2   1,28 Mcps TDD Option

~~Void.~~

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1 within 8 s.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.2.2.2.1   Definition and applicability

8.2.2.2.1.1   3,84 Mcps Option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the RRC CONNECTION REQUEST message to perform a Location Registration on the new cell.

The requirements and this test apply to the 3.84 Mcps TDD UE.

8.2.2.2.1.2   1,28 Mcps Option

~~Void.~~

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 SYNCH-UL sequence in the UpPTS for sending the RRC CONNECTION REQUEST to perform a Location Registration on cell 2.

This test is applicable to 1.28 Mcps TDD UE.

8.2.2.2.2   Minimum requirement

8.2.2.2.2.1   3,84 Mcps Option

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% with a confidence level of [FFS]%.

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 $T_{evaluate\ TDD}$ of 6.4s according to Table 4.1 in section 4.2.2.7 in [2].

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.

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.2.

8.2.2.2.2.2   1,28 Mcps Option

~~Void.~~

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: $T_{evaluateNTDD} + T_{SI}$, where:

$T_{evaluateNTDD}$ A DRX cycle length of 1280ms is assumed for this test case, this leads to a $T_{evaluate\ NTDD}$ of 6.4s according to Table 4.1A in section 4.2 in [2].

T_{SI} Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

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

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.2.

8.2.2.2.3   Test purpose

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

8.2.2.2.4   Method of test

8.2.2.2.4.1   3,84 Mcps Option

8.2.2.2.4.1.1   Initial conditions

This scenario implies the presence of 2 carriers and 6 cells as given in Table 8.2.2.2.1 and Table 8.2.2.2.2. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.2.2.1: General test parameters for Cell Re-selection in Multi carrier case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.2.2: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	6	0	6	0	0	6	0	6	-3	-3	-3	-3
PCCPCH RSCP	dBm	-67	-73			-73	-67			-76	-76		
Qoffset1$_{s,n}$	dB	C1, C2: 0; C1, C3:0; C1,C4:0C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
		Cell 4				Cell 5				Cell 6			
Timeslot		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.2.2.2.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for RRC CONNECTION REQUEST messages from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

NOTE: T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.2.2.2.4.2   1,28 Mcps Option

~~Void.~~

8.2.2.2.4.2.1 Initial conditions

This scenario implies the presence of 2 carriers and 6 cells as given in Table 8.2.2.2.1A and Table 8.2.2.2.2A. For this test purpose the broadcast repetition period of the target cell shall be [TBD] s. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.2.2.1A: General test parameters for Cell Re-selection in Multi carrier case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-103	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.2.2A: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	dB	C1, C2: 0; C1, C3:0; C1,C4:0 C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
Timeslot		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
		Cell 4				Cell 5				Cell 6			
UTRA RF Channel Number		Channel				Channel 2				Channel			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.2.2.2.4.2.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for RRC CONNECTION REQUEST messages from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

NOTE: T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.2.2.2.5 Test Requirements

8.2.2.2.5.1 3,84 Mcps Option

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step g), the UE shall respond on cell 2 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.2.5.2 1,28 Mcps Option

~~Void.~~

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step g), the UE shall respond on cell 2 within 8 s.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.2A   Scenario 2A: 3.84 Mcps TDD cell re-selection for 1.28 Mcps TDD UE

[FFS]

8.2.2.3   Scenario 3: TDD/FDD Cell re-selection

8.2.2.3.1   Definition and applicability

8.2.2.3.1.1   3,84 Mcps Option

The cell re-selection delay is defined as the time from when the cell quality levels change to the moment when this change makes the UE reselect a better ranked cell, and starts to send preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on the new cell.

This test is for the case where the UE camps on a 3.84 Mcps TDD cell and reselects to an FDD cell.

The requirements and this test apply to UEs supporting both 3.84 Mcps TDD and FDD.

8.2.2.3.1.2   1,28 Mcps Option

~~The cell reselection procedure allows the UE to select a more suitable cell and camp on it, if the UE has evaluated in N_{serv} successive measurements that the serving cell does not fulfill the cell selection criterion S_{rxlev}, defined in TS 25.304.~~

~~The cell re-selection delay is defined as the time from which the actual cell quality level in the current serving Cell 1 deteriorates to the moment when the UE camps on a better ranked Cell 2, and starts to send the SYNCH-UL sequence in the UwPTS for sending the RRC CONNECTION REQUEST to perform a Location Registration on cell 2.~~

~~If the UE has evaluated in N_{serv} (see table F2.4.1.2) successive measurements that the serving cell does not fulfill the cell selection criterion S_{rxlev}, defined in TS 25.304, the UE shall initiate the measurements of all neighbor cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.~~

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 preambles on the PRACH for sending the RRC CONNECTION REQUEST message to perform a Location Registration on cell 2.

This test is for the case where the UE camps on a 1.28 Mcps TDD cell and reselects to an FDD cell.

The requirements and this test apply to UEs supporting both 1.28 Mcps TDD and FDD.

~~The requirements of this test apply to all types of UTRA-UE.~~

8.2.2.3.2   Minimum requirements

8.2.2.3.2.1   3,84 Mcps TDD Option

The cell re-selection delay shall be less than 8 s when the DRX cycle length is 1,28 s.

The rate of correct cell reselections observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

> NOTE:
>
> The cell re-selection delay can be expressed as: $T_{evaluateFDD} + T_{SI}$, where:
>
> $T_{evaluateFDD}$ See TS 25.123 [2] Table 4.1 in section 4.2.2.
>
> 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.

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.3.

8.2.2.3.2.2   1,28 Mcps TDD Option

The minimum requirement for the cell re-selection delay is less than 8 s with a DRX cycle length of 1280ms.

This shall be verified in more than [FFS]% of the cases with a confidence level of [FFS].

The normative reference for this requirement is TS 25.123 [2]clauses 4.2.2.~~7.2~~ and A4.2.3~~1.2.2~~.

> 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 $T_{evaluate\ TDD}$ of 6.4s according to table F2.4.1.A in Annex F clause F.2.4.
>
> 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 8 s in the test case.

8.2.2.3.3   Test purpose

The test purpose is to verify the requirement for the cell re-selection.

8.2.2.3.4   Method of test

8.2.2.3.4.1   3,84 Mcps Option

8.2.2.3.4.1.1   Initial conditions

This scenario implies the presence of 1 TDD and 1 FDD cell as given in Table 8.2.2.3.4.1 and Table 8.2.2.3.4.2. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.2.3.4.1: General test parameters for the TDD/FDD cell re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	TDD cell
	Neighbour cells		Cell2	FDD cell
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.3.4.2: TDD/FDD cell re-selection

Parameter	Unit	Cell 1				Cell 2	
Timeslot Number		0		8		n.a	n.a.
		T1	T2	T 1	T 2	T 1	T 2
UTRA RF Channel Number		Channel 1				Channel 2	
CPICH_Ec/Ior	dB	n.a.		n.a.		-10	-10
PCCPCH_Ec/Ior	dB	-3	-3			-12	-12
SCH_Ec/Ior	dB	-9	-9	-9	-9	-12	-12
SCH_t_{offset}		0	0	0	0	n.a.	n.a.
PICH_Ec/Ior	dB			-3	-3	-15	-15
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-0,941	-0,941
$\hat{I}_{or}/I_{oc}$	dB	3	-2	3	-2	-2	3
I_{oc}	dBm/3.84 MHz	-70					
CPICH_RSCP	dBm	n.a.		n.a.		-82	-77
PCCPCH_RSCP	dBm	-70	-75			n.a.	n.a.
Cell_selection and reselectionquality _measure		CPICH_RSCP				CPICH_RSCP	
Qrxlevmin	dBm	-102				-115	
Qoffset1$_{s,n}$	dB	C1, C2: -12				C2, C1: +12	
Qhyst1$_s$	dB	0				0	
Treselection	s	0				0	
Sintersearch	dB	not sent				not sent	
Propagation Condition		AWGN				AWGN	

8.2.2.3.4.1.2   Procedure

a) The SS activates cell 1 and cell 2 with T1 defined parameters and monitors them for RRC CONNECTION REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 30 s, the parameters are changed as described for T2.

e) The SS waits for RRC CONNECTION REQUEST messages from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

8.2.2.3.4.2 1,28 Mcps Option

8.2.2.3.4.2.1 Initial Conditions

~~Initially, the UE is in *Normally Camped* state on a TDD cell, e.g. the UE shall attempt to detect, synchronize and monitor intra-frequency cells indicated in the measurement control system information of the serving cell.~~

~~The UE shall measure PCCPCH RSCP at least every $T_{measureNTDD}$ (see table F2.4.1A) for intra-frequency cells that are detected and measured according to the measurement rules. $T_{measureNTDD}$ is defined in table F2.4.1A. The UE shall filter PCCPCH RSCP measurements of each measured intra-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureNTDD}/2$.~~

~~The filtering shall be such that the UE shall be capable of evaluating that an intra-frequency cell has become better than the serving cell within $T_{evaluateNTDD}$ (see table F2.4.1A), from the moment the intra-frequency cell became at least [2] dB better ranked than the current serving cell, provided that Treselection timer is set to zero and PCCPCH RSCP is used as measurement quantity for cell reselection.~~

~~If the Treselection timer has a non zero value and the intra frequency cell is better ranked than the serving cell, the UE shall evaluate this intra frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.~~

~~The Initial conditions for the test case are described in table 8.2.2.3.4.1a. The scenario implies the presence of 1 carrier and 6 cells. Cell 1 and Cell 2 shall belong to different Location Areas. The UE is requested to monitor neighbouring cells on a single carrier which is the current carrier of the serving cell.~~

~~**Table 8.2.2.3.4.1a: General test parameters for Cell Re-selection single carrier multi-cell case (1,28 Mcps TDD Option)**~~

Parameter		Unit	Value	Comment
~~Initial condition~~	~~Active cell~~		~~Cell1~~	
	~~Neighbour cells~~		~~Cell2, Cell3,Cell4, Cell5, Cell6~~	
~~Final condition~~	~~Active cell~~		~~Cell2~~	
~~HCS~~			~~Not used~~	
~~UE_TXPWR_MAX_RACH~~		~~dBm~~	~~21~~	~~The value shall be used for all cells in the test.~~
~~Qrxlevmin~~		~~dBm~~	~~-102~~	~~The value shall be used for all cells in the test.~~
~~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.~~
~~T_{SI}~~		~~s~~	~~1,28~~	~~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~~	
~~T2~~		~~s~~	~~15~~	

Table 8.2.2.3.4.2b: Cell re-selection single carrier multi-cell case (1,28 Mcps TDD Option)

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	[9]	[7]	[9]	[7]	[7]	[9]	[7]	[9]	[-1]	[-1]	[-1]	[-1]
PCCPCH RSCP	dBm	[-64]	[-66]			[-66]	[-64]			[-74]	[-74]		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
		Cell 4				Cell 5				Cell 6			
Timeslot		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]	[-1]
PCCPCH RSCP	dBm	[-74]	[-74]			[-74]	[-74]			[-74]	[-74]		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/1,28 MHz	-70											
Propagation Condition		AWGN											

This test is to verify the requirement for the 1.28 Mcps TDD OPTION/FDD cell re-selection delay reported in section 4.2. in [2]

This scenario implies the presence of 1 low chip rate TDD and 1 FDD cell as given in Table 8.2.2.3.4.1A and Table 8.2.2.3.4.2A.

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

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

Table 8.2.2.3.4.1A: General test parameters for the TDD/FDD cell re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	1.28 Mcps TDD OPTION cell
	Neighbour cells		Cell2	FDD cell
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.2.2.3.4.2A: Test parameters for the 1.28 Mcps TDD OPTION/FDD cell re-selection

Parameter	Unit	Cell 1				Cell 2	
Timeslot Number		0		DwPts		n.a.	
		T1	T2	T 1	T 2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2	
PCCPCH_Ec/Ior	dB	-3	-3			-12	-12
DwPCH_Ec/Ior	dB			0	0	n.a.	
CPICH_Ec/Ior	dB	n.a.		n.a.		-10	-10
SCH_Ec/Ior	dB	n.a.		n.a.		-12	-12
PICH_Ec/Ior	dB					-15	-15
OCNS_Ec/Ior	dB	n.a.		n.a.		-0,941	-0,941
$\hat{I}_{or}/I_{oc}$	dB	[TBD]	[TBD]			[TBD]	[TBD]
I_{oc}	dBm/1.28 MHz	-70					
PCCPCH_RSCP	dBm	[TBD]	[TBD]			n.a.	n.a.
CPICH_RSCP		n.a.				[TBD]	[TBD]
Cell_selection_and_reselection quality _measure		CPICH_RSCP				CPICH_RSCP	
Qrxlevmin	dBm	-103				-115	
Qoffset1$_{s,n}$	dB	C1, C2: -12				C2, C1: +12	
Qhyst1$_s$	dB	0				0	
Treselection	s	0				0	
Sintersearch	dB	not sent					
Propagation Condition		AWGN					

8.2.2.3.4.2.2　　　　　　Procedure

a) ~~The test scenario of 6 cells with the parameter setting given in tables 8.2.2.3.2.2a and 8.2.2.3.2.2b is to be realized by the SS.~~

b) ~~UE is switched on.~~

c) ~~UE is in *Normally Camped* state on a TDD cell.~~

d) ~~SS waits to the end of for the time interval T₁ (15s) as described in Table 8.2.2.3.2.2a.~~

e) ~~At the end of time interval T₁, time interval T₂ begins, SS changes parameters yielding cell 2 better ranked than serving cell 1.~~

f) ~~SS waits for the SYNCH-UL sequence in the UwPTS from the UE.~~

g) ~~Cell reselection delay is measured.~~

h) ~~At the end of time interval T₂, conditions of time interval T₁ are repeated by SS yielding cell 1 better ranked than serving cell 2.~~

i) ~~SS waits for the SYNCH-UL sequence in the UwPTS from the UE.~~

j) ~~Cell reselection delay is measured.~~

k) ~~Repeat step e) to h) until confidence level of [FFS] is reached.~~

a) The SS activates cell 1 and cell 2 with T1 defined parameters and monitors them for RRC CONNECTION REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 30 s, the parameters are changed as described for T2.

e) The SS waits for RRC CONNECTION REQUEST messages from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

8.2.2.3.5   Test requirements

8.2.2.3.5.1   3,84 Mcps TDD Option

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.3.5.2   1,28 Mcps TDD Option

~~The requirement for the cell re-selection delay is 8 s in the single carrier case reported in clause 8.2.2.3.1.~~

~~This shall be verified in more than [FFS]% of the cases with a confidence level of [FFS].~~

~~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$_{evaluate\ TDD}$ of 6.4s according to table F2.4.1.A in annex F clause F2.4.~~

~~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.~~

Test parameters are to be set according to table 8.2.2.3.5.1 where the test tolerances shall not exceed the limits prescribed in annex F clause F.2.4.1.2.

Table 8.2.2.3.5.1: Cell re-selection single carrier multi-cell case (1,28 Mcps TDD Option)

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	[9+TT1]	[7-TT1]	[9+TT1]	[7-TT1]	[7-TT1]	[9+TT1]	[7-TT1]	[9+TT1]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]
PCCPCH RSCP	dBm	[-64+TT1]	[-66-TT1]			[-66-TT1]	[-64+TT1]			[-74-TT2]	[-74-TT2]		
Qoffset1s,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			
Qhyst1s	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			

Parameter	Unit	Cell 4				Cell 5				Cell 6			
Timeslot		0		DWPTS		0		DWPTS		0		DWPTS	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
DwPCH_Ec/Ior	dB			0	0			0	0			0	0
$\hat{I}_{or}/I_{oc}$	dB	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]	[-1-TT2]
PCCPCH RSCP	dBm	[-74-TT2]	[-74-TT2]			[-74-TT2]	[-74-TT2]			[-74-TT2]	[-74-TT2]		
Qoffset1s,n	dB	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			
Qhyst1s	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/ 1,28 MHz	-70											
Propagation Condition		AWGN											

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in annex F clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in annex F.

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.4   Scenario 4: inter RAT cell re-selection

8.2.2.4.1   Definition and applicability

8.2.2.4.1.1   3,84 Mcps Option

The cell re-selection delay is defined as the time from when the cell quality levels change to the moment when this change makes the UE reselect a better ranked cell, and starts to send LOCATION UPDATING REQUEST message to perform a Location update to the new cell.

This test is for the case where the UE camps on a 3.84 Mcps TDD cell and reselects to a GSM cell.

The requirements and this test apply to UEs supporting both 3.84 Mcps TDD and GSM.

8.2.2.4.1.2   1,28 Mcps Option

Void.

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 LOCATION UPDATING REQUEST message to perform a Location update.

This test is for the case where the UE camps on a 1.28 Mcps TDD cell and reselects to a GSM cell.

The requirements and this test apply to UEs supporting both 1. 28 Mcps TDD and GSM.

8.2.2.4.2   Minimum requirement

8.2.2.4.2.1   3,84 Mcps Option

The cell re-selection delay shall be less than 8 s when the DRX cycle length is 1,28 s. The cell selection parameters in the BCCH of the GSM cell in system info 3 and 4 are transmitted at least every second.

The rate of correct cell reselections observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 3.2.1 and A.4.2.4

8.2.2.4.2.2   1,28 Mcps Option

Void.

The cell re-selection delay shall be less than 4 s + T_{BCCH} where T_{BCCH} is the maximum time allowed to read BCCH data from GSM cell.

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: $3*T_{measureTDD} + T_{BCCH}$, where:

$T_{measureTDD}$ Specified in 4.2.2.7.2 Table 4.1A in [2].

T_{BCCH} Maximum time allowed to read BCCH data from GSM cell in TS 45.005.

This gives a total of 3.84s + T_{BCCH}, thus allow 4s + T_{BCCH}.

The normative reference for this requirement is TS 25.123 [2] clauses 4.2.2 and A.4.2.4

8.2.2.4.3   Test purpose

This test verifies the UE meets the minimum requirement for the case where the UE camps on a TDD cell and reselects to a GSM cell.

8.2.2.4.4   Method of Test

8.2.2.4.4.1   3,84 Mcps Option

8.2.2.4.4.1.1   Initial conditions

This scenario implies the presence of 1 3.84 Mcps TDD and 1 GSM cell as given in Table 8.2.2.4.1, 8.2.2.4.2, and 8.2.2.4.3. Cell 1 and cell 2 shall belong to different Location Areas.

Table 8.2.2.4.1: General test parameters for UTRAN to GSM Cell Re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	TDD Cell
	Neighbour cell		Cell2	GSM Cell
Final condition	Active cell		Cell2	
DRX cycle length		s	1,28	UTRAN cell
BCCH repetition period (GSM cell)		s	1,87	In GSM the system information is scheduled according to an 8 x (51 x 8) cycle (i.e. a system information message is transmitted every 235 ms). The cell selection parameters in system info 3 and 4 are transmitted at least every second. (GSM 05.02)
T1		s	15	
T2		s	15	

Table 8.2.2.4.2: Cell re-selection UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)			
Timeslot Number		0		8	
		T1	T2	T1	T2
UTRA RF Channel Number		Channel 1		Channel 1	
PCCPCH_Ec/Ior	dB	-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9
SCH_t$_{offset}$		0	0	0	0
PICH_Ec/Ior	dB			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	3	-2	3	-2
I_{oc}	dBm/3,84 MHz	−70		−70	
PCCPCH RSCP	dBm	-70	-75		
Propagation Condition		AWGN		AWGN	
Treselection	s	0			
Ssearch$_{RAT}$	dB	not sent			

Table 8.2.2.4.3: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-80	-70
RXLEV_ACCESS_MIN	dBm	-100	
MS_TXPWR_MAX_CCH	dBm	30	

8.2.2.4.4.1.2   Procedure

a) The SS activates cell 1 and 2 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST and LOCATION UPDATING REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for LOCATION UPDATING REQUEST messages from the UE.

f) After 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

8.2.2.4.4.2   1,28 Mcps Option

~~Void.~~

8.2.2.4.4.2.1 Initial conditions

This scenario implies the presence of 1 1.28 Mcps TDD serving cell, and 1 GSM cell to be re-selected. Test parameters are given in Table 8.2.2.4.1A, 8.2.2.4.2A, and 8.2.2.4.3A.

The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304. Cell 1 and cell 2 shall belong to different location areas.

Table 8.2.2.4.1A: General test parameters for UTRAN (1.28 Mcps TDD OPTION) to GSM Cell Re-selection

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cell		Cell2	
Final condition	Active cell		Cell2	
DRX cycle length		s	1,28	
T1		s	15	
T2		s	15	

Table 8.2.2.4.2A: Cell re-selection UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)			
Timeslot Number		0		DwPTS	
		T1	T2	T1	T2
UTRA RF Channel Number		Channel 1		Channel 1	
PCCPCH_Ec/Ior	dB	-3	-3		
DwPCH_Ec/Ior	dB			0	0
$\hat{I}_{or}/I_{oc}$	dB	13	-1	13	-1
I_{oc}	dBm/1.28 MHz	-80			
PCCPCH RSCP	dBm	-70	-84		
Propagation Condition		AWGN		AWGN	
Treselection	s	0			
Ssearch$_{RAT}$	dB	Not sent			
Qrxlevmin	dBm	-103			
Qoffset1$_{s,n}$	dB	C1, C2: 0			
Qhyst1$_s$	dB	0			

Table 8.2.2.4.3A: Cell re-selection UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-75	-70
RXLEV_ACCESS_MIN	dBm	-104	
MS_TXPWR_MAX_CCH	dBm	33	

8.2.2.4.4.2.2   Procedure

a) The SS activates cell 1 and 2 with T1 defined parameters and monitors cell 1 and 2 for RRC CONNECTION REQUEST and LOCATION UPDATING REQUEST messages from the UE.

b) The UE is switched on.

c) The SS waits until the UE camps on Cell 1 and sends the RRC CONNECTION REQUEST message.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for LOCATION UPDATING REQUEST messages from the UE.

f) After 15 s, the parameters are changed as described for T1.

g) The SS waits for RRC CONNECTION REQUEST messages from the UE.

h) Repeat steps d) to g) [TBD] times.

8.2.2.4.5   Test Requirements

8.2.2.4.5.1   3,84 Mcps Option

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1.

For the test to pass, the total number of fulfilled test requirements in step 2) shall be at least 90% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.2.2.4.5.2   1,28 Mcps Option

Void.

1) In step c), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step g), the UE shall respond on cell 1.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title: ⌘	Cell Re-selection in CELL_PCH test cases	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 09/04/2002
Category: ⌘	**A**	***Release:*** ⌘ REL-4

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>.

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

Reason for change: ⌘	Test cases for cell re-selection in CELL_PCH state are missing.
Summary of change: ⌘	Added test cases for cell re-selection in CELL_PCH state.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	8.3.5
Other specs affected: ⌘	☐ Other core specifications ⌘
	☐ Test specifications
	☐ O&M Specifications
Other comments: ⌘	

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.5   Cell Re-selection in CELL_PCH

8.3.5.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.5.1.1   Definition and applicability

8.3.5.1.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell_reselection" in the new cell.

The requirements and this test apply to the 3,84 Mcps TDD UE.

8.3.5.1.1.2   1,28 Mcps TDD option

Void.

8.3.5.1.2   Minimum requirement

8.3.5.1.2.1   3,84 Mcps TDD option

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

> 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 $T_{evaluate\ TDD}$ of 6.4s according to TS 25.123 [2] Table 4.1 in section 4.2.2.7.
>
> 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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.5 and A.5.5.1.

8.3.5.1.2.2   1,28 Mcps TDD option

Void.

8.3.5.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in CELL_PCH for the single carrier case

8.3.5.1.4   Method of test

8.3.5.1.4.1   3,84 Mcps TDD option

8.3.5.1.4.1.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.5.1.1.1, and 8.3.5.1.1.2.

Table 8.3.5.1.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.5.1.1.2: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Timeslot		**Cell 4**				**Cell 5**				**Cell 6**			
		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.5.1.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.1.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "CELL_PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

i) Repeat steps d) to g) [TBD] times.

8.3.5.1.4.2   1,28 Mcps TDD option

Void.

8.3.5.1.5   Test Requirements

8.3.5.1.5.1   3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step h), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

~~Void.~~

8.3.5.1.5.2   1,28 Mcps TDD option

Void.

8.3.5.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.5.2.1   Definition and applicability

8.3.5.2.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the 3,84 Mcps option TDD UE.

8.3.5.2.1.2   1,28 Mcps TDD option

Void.

8.3.5.2.2   Minimum requirement

8.3.5.2.2.1   3,84 Mcps TDD option

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

> 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 $T_{evaluate\ TDD}$ of 6.4s according to TS 25.123 [2] Table 4.1 in section 4.2.2.7.
>
> 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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.5 and A.5.5.2.

8.3.5.2.2.2   3,84 Mcps TDD option

Void.

8.3.5.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in CELL_PCH for the multi carrier case.

8.3.5.2.4   Method of test

8.3.5.2.4.1   3,84 Mcps TDD option

8.3.5.2.4.1.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.5.2.1.1 and 8.3.5.2.1.2.

Table 8.3.5.2.1.1: General test parameters for Cell Re-selection in Multi carrier case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.5.2.1.2: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	6	0	6	0	0	6	0	6	-3	-3	-3	-3
PCCPCH RSCP	dBm	-67	-73			-73	-67			-76	-76		
Qoffset1$_{s,n}$	dB	C1, C2: 0; C1, C3:0; C1,C4:0C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
$intrasearch	dB	not sent				not sent				not sent			
$intersearch	dB	not sent				not sent				not sent			
Timeslot		Cell 4				Cell 5				Cell 6			
		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
$intrasearch	dB	not sent				not sent				not sent			
$intersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.5.2.4.1.2　　　　　　Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.1.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "CELL PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

i) Repeat steps d) to g) [TBD] times.

NOTE:　T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.3.5.2.5.2   1,28 Mcps TDD option

Void.

8.3.5.2.5   Test Requirements

8.3.5.2.5.1   3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step h), the UE shall respond on cell 2 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

8.3.5.2.5.2   1,28 Mcps TDD option

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 095** | ⌘**rev** | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

*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: ⌘	Cell Re-selection in URA_PCH test cases	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 09/04/2002

Category: ⌘ **A**	***Release:*** ⌘ REL-4
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>.	Use <u>one</u> of the following releases: *2* *(GSM Phase 2)* *R96* *(Release 1996)* *R97* *(Release 1997)* *R98* *(Release 1998)* *R99* *(Release 1999)* *REL-4* *(Release 4)* *REL-5* *(Release 5)*

Reason for change: ⌘	Test cases for cell re-selection in URA_PCH state are missing.	
Summary of change: ⌘	Added test cases for cell re-selection in URA_PCH state.	
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.	

Clauses affected: ⌘	8.3.6

Other specs affected: ⌘	☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&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 ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.6   Cell Re-selection in URA_PCH

8.3.6.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.6.1.1   Definition and applicability

8.3.6.1.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the URA UPDATE message with cause value "change of URA" in the new cell.

The requirements and this test apply to the 3,84 Mcps TDD UE.

8.3.6.1.1.2   1,28 Mcps TDD option

Void.

8.3.6.1.2   Minimum requirement

8.3.6.1.2.1   3,84 Mcps TDD option

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

> 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 $T_{evaluate\ TDD}$ of 6.4s according to TS25.123 [2] Table 4.1 in section 4.2.2.7.
> 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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.6 and A.5.6.1.

8.3.6.1.2.2   1,28 Mcps TDD option

Void.

8.3.6.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in URA_PCH for the single carrier case

8.3.6.1.4   Method of test

8.3.6.1.4.1   3,84 Mcps TDD option

8.3.6.1.4.1.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.6.1.1.1, and 8.3.6.1.1.2.

Table 8.3.6.1.1.1: General test parameters for Cell Re-selection single carrier multi-cell case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.6.1.1.2: Cell re-selection single carrier multi-cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		**0**		**8**		**0**		**8**		**0**		**8**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Timeslot		**0**		**8**		**0**		**8**		**0**		**8**	
		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			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12	-3,12
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	C4, C1: 0; C4, C2:0; C4,C3:0C4, 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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.6.1.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.2.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "URA_PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

i) Repeat steps d) to g) [TBD] times.

8.3.6.1.4.2   1,28 Mcps TDD option

Void.

8.3.6.1.5   Test Requirements

8.3.6.1.5.1   3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 8 s.

3) In step h), the UE shall respond on cell 1 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

~~Void.~~

8.3.6.1.5.2   1,28 Mcps TDD option

Void.

8.3.6.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.6.2.1   Definition and applicability

8.3.6.2.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the URA UPDATE message with cause value "change of URA" in the new cell.

The requirements and this test apply to the 3,84 Mcps TDD UE.

8.3.6.2.1.2   1,28 Mcps TDD option

Void.

8.3.6.2.2   Minimum requirement

8.3.6.2.2.1   3,84 Mcps TDD option

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

   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 $T_{evaluate\ TDD}$ of 6.4s
                  according to TS 25.123 [2] Table 4.1 in section 4.2.2.7.
   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.

The normative reference for this requirement is TS 25.123 [2] clauses 5.6 and A.5.6.2.

8.3.6.2.2.2   1,28 Mcps TDD option

Void.

8.3.6.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in URA_PCH for the multi carrier case.

8.3.6.2.4   Method of test

8.3.6.2.4.1   3,84 Mcps TDD option

8.3.6.2.4.1.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.6.2.1.1 and 8.3.6.2.1.2.

Table 8.3.6.2.1.1: General test parameters for Cell Re-selection in Multi carrier case

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
	HCS		Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1.28	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	
T2		s	15	

Table 8.3.6.2.1.2: Cell re-selection multi carrier multi cell case

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	6	0	6	0	0	6	0	6	-3	-3	-3	-3
PCCPCH RSCP	dBm	-67	-73			-67	-70			-76	-76		
Qoffset1$_{s,n}$	dB	C1, C2: 0; C1, C3:0; C1,C4:0C1, C5:0; C1, C6:0				C2, C1: 0; C2, C3:0; C2,C4:0C2, C5:0; C2, C6:0				C3, C1: 0; C3, C2:0; C3,C4:0 C3, C5:0; C3, C6:0			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
Timeslot		Cell 4				Cell 5				Cell 6			
		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
PCCPCH RSCP	dBm	-76	-76			-76	-76			-76	-76		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection	s	0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz	-70											
Propagation Condition		AWGN											

8.3.6.2.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.4.2.7.2.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

f) The SS sends the UE CELL UPDATE CONFIRM message with "RRC State Indicater" = "URA PCH".

g) After another 15 s, the parameters are changed as described for T1.

h) The SS waits for URA UPDATE message with cause value "change of URA" from the UE.

i) Repeat steps d) to g) [TBD] times.

NOTE: T1 is initially 30 s to allow enough time for the UE to search for cells as it has no prior knowledge of these.

8.3.6.2.4.2   1,28 Mcps TDD option

Void.

8.3.6.2.5   Test Requirements

8.3.6.2.5.1   3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 8 s.

3) In step h), the UE shall respond on cell 2 within 8 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

8.3.6.2.5.2   1,28 Mcps TDD option

Void.

CR-Form-v3

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 103** | ⌘ rev | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

*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: ⌘	Power Control in the Downlink for LCRTDD	
Source: ⌘	Siemens AG	
Work item code: ⌘	LCRTDD	***Date:*** ⌘ 23/05/2002
Category: ⌘ **F**		***Release:*** ⌘ REL-4

Use one of the following categories: **F** *(essential correction)* **A** *(corresponds to a correction in an earlier release)* **B** *(Addition of feature),* **C** *(Functional modification of feature)* **D** *(Editorial modification)* Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*Use one of the following releases:* 2 *(GSM Phase 2)* R96 *(Release 1996)* R97 *(Release 1997)* R98 *(Release 1998)* R99 *(Release 1999)* REL-4 *(Release 4)* REL-5 *(Release 5)*

Reason for change: ⌘	Power control test for 1.28 Mcps TDD option is included

Summary of change: ⌘	Basically the test case is the same, only with the inclusion of some values in the tables for LCRTDD.
	
	To follow the structure in TS 34.122, this test case is splitted in two subsections, one for 3.84 Mcps TDD and one for 1.28 Mcps TDD
	
	According to core specs, power control is specified for constant BLER target in the title
	
	References in Annex G.2 are corrected to refer to TDD technical specifications.
	
	New changes (T1/RF#24):
	
	    Inclusion of the subclause for Definition and applicability.
	
	    Changes to rev1
	
	        According with R4-020982 (approved last week in RAN 4 meeting, TS 25.102 Rel4)
	
	        7.5.2.2 Minimum requirements Specification of the averaging period to one timeslot and removal the BLER statistical testing requirement

Consequences if not approved: ⌘	Conformance tests would be inconsistent with core specifications and incomplete.
Clauses affected: ⌘	7.5, Annex G.2

Other specs affected:	⌘	☐ Other core specifications	⌘	
		☐ Test specifications		
		☐ O&M Specifications		

Other comments:	⌘	Based in TS 25.102 v 4.3.0
		All changes proposed in T1R-020080 were agreed in principle. The difference in this CR is the inclusion of section for definition and applicability, according to decision taken in T1 RF #23 meeting, and the editorial mistakes in the references to the tables found, deleting "a".

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

<Start of modified section>

7.5 Power control in downlink ~~for 3,84 Mcps TDD Option~~

Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the network while using minimum downlink power.

7.5.1 Power control in downlink for 3.84 Mcps TDD option, constant BLER Target

7.5.1.1 Minimum requirements

For the parameters specified in table 7.5.1.1.~~a~~ the average downlink $\hat{I}_{or}/I_{oc}$ power shall be below the specified value in Table 7.5.1.2~~a~~ more than 90% of the time. BLER shall be as shown in Table 7.5.1.2~~b~~ more than 90% of the time. Downlink power control is ON during the test.

Table 7.5.1.1~~a~~: Test parameters for downlink power control - constant BLER Target

Parameter	Unit	Test 1	
$\dfrac{DPCH\_E_c}{I_{or}}$	dB	0	
I_{oc}	dBm/3,84 MHz	-60	
Information Data Rate	kbps	12,2	
Target quality value on DTCH	BLER	0,01	
Propagation condition		Case 1	
DL Power Control step size, Δ_{TPC}	dB	1	
Maximum_DL_power *	dB	0	
Minimum_DL_power *	dB	-27	

Note: DL power is relative to P-CCPCH power.

Table 7.5.1.2~~b~~: Requirements for downlink power control - constant BLER Target

Parameter	Unit	Test 1	
$\hat{I}_{or}/I_{oc}$	dB	8,0	
Measured quality on DTCH	BLER	0,01±30%	

The reference for this requirement is TS 25.102 [1] clause 8.5.1.

7.5.1.2 Test purpose

To verify that the UE receiver is capable of converging to the required link quality set by the network while using as low power as possible.

7.5.1.3 Method of test

7.5.1.3.1 Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.

2) Set up a call according to the Generic call setup procedure.

3) RF parameters are set up according to table 7.5.1.1.a

4) Enter the UE into loopback test mode and start the loopback test.

5) SS signals to UE target quality value on DTCH as specified in table 7.5.1.1.a. SS will vary the physical channel power in downlink according to the TPC commands from UE, and at the same time measure BLER. This is continued until the target quality value on DTCH is met, within the minimum accuracy requirement.

See TS 34.108 [3] and TS 34.109 [4] for details regarding generic call setup procedure and loopback test.

7.5.1.3.2   Procedure

1) After the target quality on DTCH is met, BLER is measured. Simultaneously the downlink $\hat{I}_{or}/I_{oc}$ power ratio averaged over one slot is measured. This is repeated until adequate amount of measurements is done to reach the required confidence level.

2) The measured quality on DTCH (BLER) and the measured downlink $\hat{I}_{or}/I_{oc}$ power ratio values averaged over one slot are compared to the limits in table 7.5.1.2b.

7.5.1.4   Test Requirements

a) The measured quality on DTCH does not exceed the values in table 7.5.1.2b.

b) The downlink $\hat{I}_{or}/I_{oc}$ power ratio values, which are averaged over one slot, shall be below the values in table 7.5.1.2b more than 90 % of the time.

7.5.2 Power control in downlink for 1,28 Mcps TDD option, constant BLER Target

7.5.2.1   Definition and applicability

Power control in the downlink is the ability of the UE receiver to converge to required link quality set by the network while using as low power as possible in downlink. If a BLER target has been assigned to a DCCH (See clause C.3), then it has to be such that outer loop is based on DTCH and not on DCCH. The requirements and this test apply to all types of UTRA for the 1.28 Mcps TDD UE.

7.5.2.2   Minimum requirements

For the parameters specified in table 7.5.2.1 the average downlink $\hat{I}_{or}/I_{oc}$ averaged over one timeslot power shall be below the specified value in Table 7.5.2.2 more than 90% of the time. BLER shall be as shown in Table 7.5.2.2 more than 90% of the time. Downlink power control is ON during the test.

Table 7.5.2.1: Test parameters for downlink power control – constant BLER Target

Parameter	Unit	Test 1	
$\dfrac{DPCH\_E_c}{I_{or}}$	dB	0	
I_{oc}	dBm/1.28 MHz	-60	
Information Data Rate	kbps	12,2	
Target quality value on DTCH	BLER	0,01	
Propagation condition		Case 1	
DL Power Control step size, Δ_{TPC}	dB	1	
Maximum_DL_power *	dB	0	
Minimum_DL_power *	dB	-27	

Note: DL power is compared to P-CCPCH power.

Table 7.5.2.2: Requirements for downlink power control – constant BLER Target

Parameter	Unit	Test 1	
$\hat{I}_{or}/I_{oc}$	dB	7.5	
Measured quality on DTCH	BLER	0,01±30%	

The reference for this requirement is TS 25.102 [1] clause 8.5.1.

7.5.2.3   Test purpose

To verify that the UE receiver is capable of converging to the required link quality set by the network while using as low power as possible.

7.5.2.4   Method of test

7.5.2.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.

2) Set up a call according to the Generic call setup procedure.

3) RF parameters are set up according to table 7.5.2.1

4) Enter the UE into loopback test mode and start the loopback test.

5) SS signals to UE target quality value on DTCH as specified in table 7.5.2.1   SS will vary the physical channel power in downlink according to the TPC commands from UE, and at the same time measure BLER. This is continued until the target quality value on DTCH is met, within the minimum accuracy requirement.

See TS 34.108 [3] and TS 34.109 [4] for details regarding generic call setup procedure and loopback test.

7.5.2.4.2   Procedure

1) After the target quality on DTCH is met, BLER is measured. Simultaneously the downlink $\hat{I}_{or}/I_{oc}$ power ratio averaged over one slot is measured. This is repeated until adequate amount of measurements is done to reach the required confidence level.

2) The measured quality on DTCH (BLER) and the measured downlink $\hat{I}_{or}/I_{oc}$ power ratio values averaged over one slot are compared to the limits in table 7.5.2.2.

7.5.2.5   Test Requirements

a) The measured quality on DTCH does not exceed the values in table 7.5.2.2.

b) The downlink $\hat{I}_{or}/I_{oc}$ power ratio values, which are averaged over one slot, shall be below the values in table 7.5.2.2 ~~more than 90 % of the time.~~

\<End of modified section\>

<Start of modified section>

G.2 Environmental requirements

The requirements in this clause apply to all types of UE(s)

G.2.1 Temperature

The UE shall fulfil all the requirements in the full temperature range of:

+15°C to +35°C	for normal conditions (with relative humidity of 25 % to 75 %)
-10°C to +55°C	for extreme conditions (see IEC publications 68-2-1 and 68-2-2)

Outside this temperature range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 25.102₁ [1] for extreme operation.

Some tests in the present document are performed also in extreme temperature conditions. These test conditions are denoted as TL (temperature low, −10°C) and TH (temperature high, +55°C).

G.2.2 Voltage

The UE shall fulfil all the requirements in the full voltage range, i.e. the voltage range between the extreme voltages.

The manufacturer shall declare the lower and higher extreme voltages and the approximate shutdown voltage. For the equipment that can be operated from one or more of the power sources listed below, the lower extreme voltage shall not be higher, and the higher extreme voltage shall not be lower than that specified below.

Power source	Lower extreme voltage	Higher extreme voltage	Normal conditions voltage
AC mains	0,9 * nominal	1,1 * nominal	nominal
Regulated lead acid battery	0,9 * nominal	1,3 * nominal	1,1 * nominal
Non regulated batteries: Leclanché / lithium Mercury/nickel & cadmium	0,85 * nominal 0,90 * nominal	Nominal Nominal	Nominal Nominal

Outside this voltage range the UE if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in [1] TS 25.102₁ for extreme operation. In particular, the UE shall inhibit all RF transmissions when the power supply voltage is below the manufacturer declared shutdown voltage.

Some tests in the present document are performed also in extreme voltage conditions. These test conditions are denoted as VL (lower extreme voltage) and VH (higher extreme voltage).

G.2.3 Vibration

The UE shall fulfil all the requirements when vibrated at the following frequency/amplitudes:

Frequency	ASD (Acceleration Spectral Density) random vibration
5 Hz to 20 Hz	0,96 m^2/s^3
20 Hz to 500 Hz	0,96 m^2/s^3 at 20 Hz, thereafter −3 dB/Octave

Outside the specified frequency range the UE, if powered on, shall not make ineffective use of the radio frequency spectrum. In no case shall the UE exceed the transmitted levels as defined in TS 25.102₁ [1] for extreme operation.

G.2.4 Specified frequency range

The manufacturer shall declare, which of the frequency bands defined in clause 4.2 is supported by the UE.

Some tests in the present document are performed also in low, mid and high range of the operating frequency band of the UE. The UARFCN's to be used for low, mid and high range are defined in TS 34.108 [3] clause 5.1.2~~1~~.

<End of modified section>

<div align="right">*CR-Form-v5*</div>

CHANGE REQUEST

⌘	**TS 34.122 CR 088**	⌘**rev**	**-** ⌘	Current version:	**3.7.0** ⌘

*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:	⌘	TDD/TDD Handover to Intra-frequency Cell
Source:	⌘	T1/RF
Work item code: ⌘		**Date:** ⌘ 21/05/2002
Category: ⌘	**F**	**Release:** ⌘ R99

<table>
<tr><td colspan="2">Use <u>one</u> of the following categories:</td><td colspan="2">Use <u>one</u> of the following releases:</td></tr>
<tr><td><i>F</i></td><td>(correction)</td><td>2</td><td>(GSM Phase 2)</td></tr>
<tr><td><i>A</i></td><td>(corresponds to a correction in an earlier release)</td><td>R96</td><td>(Release 1996)</td></tr>
<tr><td><i>B</i></td><td>(addition of feature),</td><td>R97</td><td>(Release 1997)</td></tr>
<tr><td><i>C</i></td><td>(functional modification of feature)</td><td>R98</td><td>(Release 1998)</td></tr>
<tr><td><i>D</i></td><td>(editorial modification)</td><td>R99</td><td>(Release 1999)</td></tr>
<tr><td colspan="2">Detailed explanations of the above categories can</td><td>REL-4</td><td>(Release 4)</td></tr>
<tr><td colspan="2">be found in 3GPP <u>TR 21.900</u>.</td><td>REL-5</td><td>(Release 5)</td></tr>
</table>

Reason for change:	⌘	Test case for TDD/TDD intra-frequency handover is missing.
Summary of change:	⌘	Added test case for TDD/TDD intra-frequency handover.
Consequences if not approved:	⌘	Requirements in the core specification would not be tested.

Clauses affected:	⌘	new clause 8.3.1.1
Other specs affected:	⌘ ☐	Other core specifications ⌘
	☐	Test specifications
	☐	O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3   UTRAN Connected Mode Mobility

8.3.1   TDD/TDD Handover

~~Void.~~

8.3.1.1   Handover to intra-frequency cell

8.3.1.1.1   Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD UE.

8.3.1.1.2   Minimum requirement

The hard handover delay shall be less than 40 ms in the single carrier case when the cell is known by the UE and the SFN of the target cell does not need to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.1.2 and A.5.1.1.

8.3.1.1.3   Test purpose

The purpose of this test is to verify the requirement for the intra-frequency handover delay in CELL DCH state in the single carrier case.

8.3.1.1.4   Method of test

8.3.1.1.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.1.1.1 and 8.3.1.1.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1G shall be used, and that P-CCPCH RSCP and SFN-CFN observed timed difference shall be reported together with Event 1G. 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 message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. The UL DPCH shall be transmitted in timeslot 12.

Table 8.3.1.1.1: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final condition	Active cell		Cell 2	
HCS			Not used	
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	
Time to Trigger		ms	0	
Filter coefficient			0	
Monitored cell list size			6 TDD neighbours on Channel 1	
T1		s	10	
T2		s	10	
T3		s	10	

Table 8.3.1.1.2: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1						Cell 2					
DL timeslot number		**0**			**4**			**0**			**5**		
		T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1						Channel 1					
PCCPCH_Ec/Ior	dB	-3			n.a.			-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.			-9			n.a.		
SCH_t$_{offset}$	dB	0			n.a.			5			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.	n.a.			n.a.		Note 1
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.	n.a.	-3,12		n.a.		Note 2
$\hat{I}_{or}/I_{oc}$	dB	1						-Inf.	3		-Inf.		3
PCCPCH RSCP	dBm	-72			n.a.			-Inf.	-70		n.a.		
I_{oc}	dBm/ 3,84 MHz	-70											
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 Ior .													

8.3.1.1.4.2   Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 10 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1G.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 10 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCH to cell 2 less than 40 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 10 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.1.1.5   Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

Note: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

⌘	**TS 34.122 CR**	**096**	⌘ **rev**	**-**	⌘	Current version:	**4.3.0**	⌘

*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: ⌘	TDD/TDD Handover to Intra-frequency Cell	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/05/2002

Category: ⌘ **A**	***Release:*** ⌘ REL-4
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>.	Use <u>one</u> of the following releases: *2 (GSM Phase 2)* *R96 (Release 1996)* *R97 (Release 1997)* *R98 (Release 1998)* *R99 (Release 1999)* *REL-4 (Release 4)* *REL-5 (Release 5)*

Reason for change: ⌘	Test case for TDD/TDD intra-frequency handover is missing.	
Summary of change: ⌘	Added test case for TDD/TDD intra-frequency handover.	
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.	

Clauses affected: ⌘	new clause 8.3.1.1	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘		

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3   UTRAN Connected Mode Mobility

8.3.1   TDD/TDD Handover for 3,84 Mcps Option

Void.

8.3.1.1   Handover to intra-frequency cell

8.3.1.1.1   Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD UE.

8.3.1.1.2   Minimum requirement

The hard handover delay shall be less than 40 ms in the single carrier case when the cell is known by the UE and the SFN of the target cell does not need to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.1.2 and A.5.1.1.

8.3.1.1.3   Test purpose

The purpose of this test is to verify the requirement for the intra-frequency handover delay in CELL DCH state in the single carrier case.

8.3.1.1.4   Method of test

8.3.1.1.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.1.1.1 and 8.3.1.1.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1G shall be used, and that P-CCPCH RSCP and SFN-CFN observed timed difference shall be reported together with Event 1G. 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 message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. The UL DPCH shall be transmitted in timeslot 12.

Table 8.3.1.1.1: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final condition	Active cell		Cell 2	
HCS			Not used	
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	
Time to Trigger		ms	0	
Filter coefficient			0	
Monitored cell list size			6 TDD neighbours on Channel 1	
T1		s	10	
T2		s	10	
T3		s	10	

Table 8.3.1.1.2: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1						Cell 2					
DL timeslot number		**0**			**4**			**0**			**5**		
		T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1						Channel 1					
PCCPCH_Ec/Ior	dB	-3			n.a.			-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.			-9			n.a.		
SCH_t_{offset}	dB	0			n.a.			5			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.	n.a.			n.a.		Note 1
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.	n.a.	-3,12		n.a.		Note 2
$\hat{I}_{or}/I_{oc}$	dB	1						-Inf.	3		-Inf.	3	
PCCPCH RSCP	dBm	-72			n.a.			-Inf.	-70		n.a.		
I_{oc}	dBm/ 3,84 MHz	-70											
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 Ior .													

8.3.1.1.4.2   Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 10 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 1G.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 10 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCH to cell 2 less than 40 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 10 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.1.1.5   Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

   Note: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

<div style="text-align:right">*CR-Form-v5*</div>

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 089** | ⌘**rev** | **-** | ⌘ | Current version: | **3.7.0** | ⌘ |

*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: ⌘	TDD/TDD Handover to Inter-frequency Cell	
Source: ⌘	T1/RF	
Work item code: ⌘		***Date:*** ⌘ 21/05/2002
Category: ⌘ **F**		***Release:*** ⌘ R99

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>.

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

Reason for change: ⌘	Test case for TDD/TDD inter-frequency handover is missing.
Summary of change: ⌘	Added test case for TDD/TDD inter-frequency handover. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020975.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	new clause 8.3.1.2
Other specs affected: ⌘	☐ Other core specifications ⌘
	☐ Test specifications
	☐ O&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 ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3   UTRAN Connected Mode Mobility

8.3.1   TDD/TDD Handover

8.3.1.1   Handover to intra-frequency cell

Void.

8.3.1.2   Handover to inter-frequency cell

8.3.1.2.1   Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD UE.

8.3.1.2.2   Minimum requirement

The hard handover delay shall be less than 40 ms in the dual carrier case when the cell is known by the UE and the SFN of the target cell needs to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.1.2 and A.5.1.2.

8.3.1.2.3   Test purpose

The purpose of this test is to verify the requirement for the inter-frequency handover delay in CELL_DCH state in the dual carrier case.

8.3.1.2.4   Method of test

8.3.1.2.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.1.2.1 and 8.3.1.2.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The PCCPCH RSCP and SFN-CFN observed time difference 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 message with activation time at beginning of T3 with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The second Beacon timeslot shall be provided in timeslot 8 for cell 1 and in timeslot 10 for cell 2. The UL DPCH shall be transmitted in timeslot 12.

Table 8.3.1.2.1: General test parameters for Handover to inter-frequency cell

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Initial conditions — Active cell		Cell 1	
Initial conditions — Neighbour cell		Cell 2	
Final condition — Active cell		Cell 2	
HCS		Not used	
O	dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis	dB	0	Hysteresis parameter for event 2C
Time to Trigger	ms	0	
Threshold non-used frequency	dBm	-80	Applicable for Event 2C
Filter coefficient		0	
Monitored cell list size		6 TDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}	s	1,28	The value shall be used for all cells in the test.
T1	s	10	
T2	s	10	
T3	s	10	

Table 8.3.1.2.2: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1						Cell 2					
DL timeslot number		**0**			**4**			**2**			**5**		
		T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1						Channel 2					
PCCPCH_Ec/Ior	dB	-3			n.a.			-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.			-9			n.a.		
SCH_t$_{offset}$	dB	0			n.a.			5			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.	n.a.			n.a.		Note 1
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.	n.a.		-3,12	n.a.		Note 2
$\hat{I}_{or}/I_{oc}$	dB	1						-Inf.	7		-Inf	7	
PCCPCH RSCP	dBm	-72			n.a.			-Inf.	-66		n.a.		
I_{oc}	dBm/ 3,84 MHz	-70											
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 Ior .													

8.3.1.2.4.2　　　　　　Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 10 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 10 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCH to cell 2 less than 40 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 10 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.1.2.5　　　　Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

> Note:　　　If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.122** CR **097** | ⌘**rev** | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

*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: ⌘	TDD/TDD Handover to Inter-frequency Cell	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/05/2002

Category: ⌘ **A**	***Release:*** ⌘ REL-4

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>.

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

Reason for change: ⌘	Test case for TDD/TDD inter-frequency handover is missing.
Summary of change: ⌘	Added test case for TDD/TDD inter-frequency handover. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020975.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	new clause 8.3.1.2

Other specs affected: ⌘	☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&M Specifications	

Other comments: ⌘	

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3   UTRAN Connected Mode Mobility

8.3.1   TDD/TDD Handover for 3,84 Mcps Option

8.3.1.1   Handover to intra-frequency cell

Void.

8.3.1.2   Handover to inter-frequency cell

8.3.1.2.1   Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD UE.

8.3.1.2.2   Minimum requirement

The hard handover delay shall be less than 40 ms in the dual carrier case when the cell is known by the UE and the SFN of the target cell needs to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.1.2 and A.5.1.2.

8.3.1.2.3   Test purpose

The purpose of this test is to verify the requirement for the inter-frequency handover delay in CELL DCH state in the dual carrier case.

8.3.1.2.4   Method of test

8.3.1.2.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.1.2.1 and 8.3.1.2.2. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The PCCPCH RSCP and SFN-CFN observed time difference 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 message with activation time at beginning of T3 with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The second Beacon timeslot shall be provided in timeslot 8 for cell 1 and in timeslot 10 for cell 2. The UL DPCH shall be transmitted in timeslot 12.

Table 8.3.1.2.1: General test parameters for Handover to inter-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final condition	Active cell		Cell 2	
HCS			Not used	
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-80	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 TDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1,28	The value shall be used for all cells in the test.
T1		s	10	
T2		s	10	
T3		s	10	

Table 8.3.1.2.2: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1						Cell 2					
DL timeslot number		**0**			**4**			**2**			**5**		
		T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1						Channel 2					
PCCPCH_Ec/Ior	dB	-3			n.a.			-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.			-9			n.a.		
SCH_t_{offset}	dB	0			n.a.			5			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.	n.a.			n.a.		Note 1
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.	n.a.		-3,12	n.a.		Note 2
$\hat{I}_{or}/I_{oc}$	dB	1						-Inf.		7	-Inf		7
PCCPCH RSCP	dBm	-72			n.a.			-Inf.		-66	n.a.		
I_{oc}	dBm/ 3,84 MHz	-70											
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 Ior .

8.3.1.2.4.2   Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 10 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2C.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 10 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCH to cell 2 less than 40 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 10 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.1.2.5   Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

Note: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.122** CR **090** | ⌘**rev** | **-** | ⌘ | Current version: | **3.7.0** | ⌘ |

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title: ⌘	TDD/FDD Handover	
Source: ⌘	T1/RF	
Work item code: ⌘		*Date:* ⌘ 21/05/2002
Category: ⌘ **F**		*Release:* ⌘ R99

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

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

Reason for change: ⌘	Test case for TDD/FDD handover is missing.
Summary of change: ⌘	Added test case for TDD/FDD. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020975.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	8.3.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3   UTRAN Connected Mode Mobility

8.3.1   TDD/TDD Handover

Void.

8.3.2   TDD/FDD Handover

~~Void.~~

8.3.2.1   Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD / FDD UE.

8.3.2.2   Minimum requirement

The hard handover delay shall be less than 100 ms in the single carrier case when the cell is known by the UE and the SFN of the target cell does not need to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.2 and A.5.2.

8.3.2.3   Test purpose

The purpose of this test is to verify the requirement for the TDD/FDD handover delay in CELL_DCH state.

8.3.2.4   Method of test

8.3.2.4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.2.1, 8.3.2.2 and 8.3.2.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1G and 2B shall be used. The CPICH_RSCP of the best cell on the unused frequency shall be reported together with Event 2B reporting. 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 message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

Table 8.3.2.1: General test parameters for TDD/FDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	TDD cell
	Neighbour cell		Cell 2	FDD cell
Final condition	Active cell		Cell 2	FDD cell
HCS			Not used	
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	3	Hysteresis parameter for event 2B
Time to Trigger		ms	0	
Absolute threshold used frequency		dBm	-71	Applicable for Event 2B
Threshold non-used frequency		dBm	-80	Applicable for Event 2B
W used frequency			1	Applicable for Event 2B
W non-used frequency			1	Applicable for Event 2B
Filter coefficient			0	
Monitored cell list size			6 TDD neighbours on Channel 1 6 FDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test.
T1		s	5	
T2		s	15	
T3		s	5	

Table 8.3.2.2: Cell 1 specific test parameters for TDD/FDD handover

Parameter	Unit	Cell 1					
DL timeslot number		**0**			**2**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1					
PCCPCH_Ec/Ior	dB	-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.		
SCH_t$_{offset}$	dB	0			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.
$\hat{I}_{or}/I_{oc}$	dB	5	-1		5	-1	
PCCPCH RSCP	dBm	-68	-74		n.a.		
I_{oc}	dBm/ 3,84 MHz	-70					
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 Ior .							

Table 8.3.2.3: Cell 2 specific test parameters for TDD/FDD handover

Parameter	Unit	Cell 2	
		T1, T2	T3
CPICH_Ec/Ior	dB	-10	
PCCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	n.a.	Note 1
OCNS_Ec/Ior	dB	-0,941	Note 2
CPICH_RSCP	dBm	-83	-77
$\hat{I}_{or}/I_{oc}$	dB	-3	3
I_{oc}	dBm/3.84 MHz	-70	
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$_{or}$			

8.3.2.4.2   Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 5 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2B.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 15 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCCH to cell 2 less than 100 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 5 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.2.5   Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

Note: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

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CHANGE REQUEST

| ⌘ | **TS 34.122 CR 098** | ⌘ **rev** | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title: ⌘	TDD/FDD Handover	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/05/2002
Category: ⌘ **A**		***Release:*** ⌘ REL-4

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>.

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

Reason for change: ⌘	Test case for TDD/FDD handover is missing.	
Summary of change: ⌘	Added test case for TDD/FDD. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020975.	
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.	

Clauses affected: ⌘	8.3.2	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘		

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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.

8.3 UTRAN Connected Mode Mobility

8.3.1 TDD/TDD Handover

Void.

8.3.2 TDD/FDD Handover for 3,84 Mcps Option

~~Void.~~

8.3.2.1 Definition and applicability

Handover delay of the UE is defined as the time from the end of the last TTI containing an RRC message implying hard handover to the transmission of the new uplink DPCCH, excluding the RRC procedure delay as defined in [9].

The requirements and this test apply to the UTRA TDD / FDD UE.

8.3.2.2 Minimum requirement

The hard handover delay shall be less than 100 ms in the single carrier case when the cell is known by the UE and the SFN of the target cell does not need to be decoded. The rate of correct handovers observed during repeated tests shall be at least 90% with a confidence level of [FFS]%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.2 and A.5.2.

8.3.2.3 Test purpose

The purpose of this test is to verify the requirement for the TDD/FDD handover delay in CELL_DCH state.

8.3.2.4 Method of test

8.3.2.4.1 Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

The test parameters are given in Table 8.3.2.1, 8.3.2.2 and 8.3.2.3 below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1G and 2B shall be used. The CPICH_RSCP of the best cell on the unused frequency shall be reported together with Event 2B reporting. 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 message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

Table 8.3.2.1: General test parameters for TDD/FDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	TDD cell
	Neighbour cell		Cell 2	FDD cell
Final condition	Active cell		Cell 2	FDD cell
HCS			Not used	
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	3	Hysteresis parameter for event 2B
Time to Trigger		ms	0	
Absolute threshold used frequency		dBm	-71	Applicable for Event 2B
Threshold non-used frequency		dBm	-80	Applicable for Event 2B
W used frequency			1	Applicable for Event 2B
W non-used frequency			1	Applicable for Event 2B
Filter coefficient			0	
Monitored cell list size			6 TDD neighbours on Channel 1 6 FDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test.
T1		s	5	
T2		s	15	
T3		s	5	

Table 8.3.2.2: Cell 1 specific test parameters for TDD/FDD handover

Parameter	Unit	Cell 1					
DL timeslot number		**0**			**2**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1					
PCCPCH_Ec/Ior	dB	-3			n.a.		
SCH_Ec/Ior	dB	-9			n.a.		
SCH_t$_{offset}$	dB	0			n.a.		
DPCH_Ec/Ior	dB	n.a.			Note 1		n.a.
OCNS_Ec/Ior	dB	-3,12			Note 2		n.a.
$\hat{I}_{or}/I_{oc}$	dB	5	-1		5	-1	
PCCPCH RSCP	dBm	-68	-74		n.a.		
I_{oc}	dBm/ 3,84 MHz	-70					
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 Ior .							

Table 8.3.2.3: Cell 2 specific test parameters for TDD/FDD handover

Parameter	Unit	Cell 2	
		T1, T2	T3
CPICH_Ec/Ior	dB	-10	
PCCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	n.a.	Note 1
OCNS_Ec/Ior	dB	-0,941	Note 2
CPICH_RSCP	dBm	-83	-77
$\hat{I}_{or}/I_{oc}$	dB	-3	3
I_{oc}	dBm/3.84 MHz	-70	
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			

8.3.2.4.2 Procedure

1) The RF parameters are set up according to T1.

2) The UE is switched on.

3) A call is set up according to the test procedure specified in TS 34.108 [3] subclause 7.3.4.

[Editor's note: subclause 7.3.4 in TS 34.108 (Message sequence chart for Handover Test procedure) is not yet specified]

4) SS shall transmit a MEASUREMENT CONTROL message.

5) After 5 seconds, the SS shall switch the power settings from T1 to T2.

6) UE shall transmit a MEASUREMENT REPORT message triggered by event 2B.

7) SS shall transmit a PHYSICAL CHANNEL RECONFIGURATION message with activation time at T3.

8) After 15 seconds, the SS shall switch the power settings from T2 to T3

9) UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the UL DCCH of cell 2. If the UE transmits the UL DPCCH to cell 2 less than 100 ms from the beginning of time period T3 then the number of successful tests is increased by one.

10) After 5 seconds, the UE is switched off. Any timing information of cell 2 is deleted in the UE.

11) Repeat step 1-10 [TBD] times

8.3.2.5 Test requirements

For the test to pass, the total number of successful tests shall be more than [FFS] of the cases.

Note: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

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CHANGE REQUEST

⌘ **TS 34.122 CR 091** ⌘ **rev** **-** ⌘ Current version: **3.7.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title: ⌘	PCCPCH Measurement Performance R99	
Source: ⌘	T1/RF	
Work item code: ⌘		***Date:*** ⌘ 21/05/2002
Category: ⌘ **F**		***Release:*** ⌘ R99

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>.

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

Reason for change: ⌘	Test cases for PCCPCH measurement performance are missing.
Summary of change: ⌘	Added test cases for PCCPCH measurement performance. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020641.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	8.7.1

Other specs affected: ⌘	☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&M Specifications	

Other comments: ⌘	

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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.

8.7 Measurements Performance Requirements

Unless explicitly stated:

- Measurement channel is 12.2 kbps as defined in TS 25.102 annex A. This measurement channel is used both in active cell and cells to be measured.

- Cell 1 is the active cell.

- Single task reporting.

- Power control is active.

~~Void.~~

8.7.1   P-CCPCH RSCP

8.7.1.1   Intra frequency measurement accuracy

8.7.1.1.1   Absolute accuracy requirement

8.7.1.1.1.1   Definition and applicability

The absolute accuracy of P-CCPCH RSCP is defined as the P-CCPCH RSCP meaasured from one cell compared to the actual P-CCPCH RSCP power from the same cell.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.1.1.2   Minimum Requirements

The absolute accuracy requirements in table 8.7.1.1.1.1 are valid under the following conditions:

P-CCPCH RSCP $\geq$ -102 dBm.

$$\left(\frac{P-CCPCH\_E_c}{I_o} \right)_{in\ dB} \geq -8dB$$

$$- \left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \geq -13dB$$

Table 8.7.1.1.1.1 P-CCPCH_RSCP absolute accuracy

Parameter	Unit	Accuracy [dB]		Conditions
		Normal condition	**Extreme condition**	**Io [dBm]**
P-CCPCH_RSCP	dBm	$\pm$ 6	$\pm$ 9	-94...-70
	dBm	$\pm$ 8	$\pm$ 11	-70...-50

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.1 and A.9.1.1.1.1.

8.7.1.1.1.3   Test Purpose

The purpose of this test is to verify that the absolute P-CCPCH RSCP measurement accuracy is within the specified limits.

8.7.1.1.1.4   Method of test

8.7.1.1.1.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case all cells are on the same frequency. Cell 1 and cell 2 shall be synchronised, i.e. share the same frame and timeslot timing. The DL DPCH shall be transmitted in timeslot 4 and the UL DPCH shall be transmitted in timeslot 12. The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. P-CCPCH RSCP intra frequency absolute accuracy requirements are tested by using test parameters in Table 8.7.1.1.1.2.

Table 8.7.1.1.1.2: P-CCPCH RSCP Intra frequency test parameters

Parameter	Unit	Test 1		Test 2		Test 3	
		Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
DL timeslot number		0	0	0	0	0	0
UTRA RF Channel number		Channel 1		Channel 1		Channel 1	
PCCPCH_Ec/Ior	dB	-3		-3		-3	
SCH_Ec/Ior	dB	-9		-9		-9	
SCH_t_{offset}		0	5	0	5	0	5
OCNS_Ec/Ior	dB	-3,12		-3,12		-3,12	
Ioc	dBm / 3.84 MHz	-75.7		-59.8		-98.7	
Ior/Ioc	dB	5	2	9	2	3	0
PCCPCH RSCP, Note 1	dBm	-73.7	-76.7	-53.8	-60.8	-98.7	-101.7
Io, Note 1	dBm / 3.84 MHz	-69		-50		-94	
Propagation condition		AWGN		AWGN		AWGN	
NOTE 1: PCCPCH RSCP and Io levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.							

1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.1.1.2.

8.7.1.1.1.4.2   Procedure

1) SS shall transmit MEASUREMENT CONTROL message.

2) UE shall transmit periodically MEASUREMENT REPORT messages.

3) SS shall check PCCPCH_RSCP value in MEASUREMENT REPORT messages. PCCPCH_RSCP power of Cell 1 reported by UE is compared to actual PCCPCH_RSCP power for each MEASUREMENT REPORT message.

4) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, step 3) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, step 3) above is repeated.

5) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

6) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.1.1.5   Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.1.2 for at least 900 of the measurement reports at each input level in step 4.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.7.1.1.2   Relative accuracy requirement

8.7.1.1.2.1   Definition and applicability

The relative accuracy of PCCPCH RSCP is defined as the PCCPCH RSCP measured from one cell compared to the PCCPCH RSCP measured from another cell on the same frequency.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.1.2.2   Minimum Requirements

The relative accuracy requirements in table 8.7.1.1.2.1 are valid under the following conditions:

P-CCPCH RSCP ≥ -102 dBm.

$$\left(\frac{P-CCPCH\_E_c}{I_o} \right)_{in\ dB} \geq -8 dB$$

$$\left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \geq -13 dB$$

$$\left| P\text{-}CCPCH\ RSCP1\big|_{in\ dB} - P\text{-}CCPCH\ RSCP2\big|_{in\ dB} \right| \leq 20 dB$$

Relative Io difference [dB] ≤ relative RSCP difference [dB]

It is assumed that the measurements of P-CCPCH RSCP1 and P-CCPCH RSCP2 can be performed within 20ms due to slot allocations in the cells concerned.

Table 8.7.1.1.2.1: P-CCPCH_RSCP intra-frequency relative accuracy

Parameter	Unit	Accuracy [dB]		Conditions	
		Normal condition	**Extreme condition**	**Io [dBm]**	**relative RSCP difference [dbB]**
P-CCPCH_RSCP	dBm	±1	±1	-94...-50	<2
		±2	±2		2...14
		±3	± 3		>14

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.2 and A.9.1.1.1.1.

8.7.1.1.2.3   Test Purpose

The purpose of this test is to verify that the relative P-CCPCH RSCP measurement accuracy is within the specified limits.

8.7.1.1.2.4   Method of test

8.7.1.1.2.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case all cells are on the same frequency. Cell 1 and cell 2 shall be synchronised, i.e. share the same frame and timeslot timing. The DL DPCH shall be transmitted in timeslot 4 and the UL DPCH shall be transmitted in timeslot 12. The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. P-CCPCH RSCP intra frequency relative accuracy requirements are tested by using test parameters in Table 8.7.1.1.1.2.

1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.1.1.2.

8.7.1.1.2.4.2   Procedure

1) SS shall transmit MEASUREMENT CONTROL message.

2) UE shall transmit periodically MEASUREMENT REPORT messages.

3) SS shall check PCCPCH RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. PCCPCH RSCP power value measured from Cell 1 is compared to PCCPCH RSCP power value measured from Cell 2 for each MEASUREMENT REPORT message.

4) The result of step 3) is compared to actual power level difference of PCCPCH RSCP of Cell 1 and Cell 2.

5) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 3) and 4) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 3) and 4) above are repeated.

6) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

7) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.1.2.5   Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.2.2 for at least 900 of the measurement reports at each input level in step 4.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.7.1.2   Inter frequency measurement accuracy

8.7.1.2.1   Relative accuracy requirement

8.7.1.2.1.1   Definition and applicability

The P-CCPCH RSCP inter-frequency relative accuracy is defined as the P-CCPCH RSCP measured from one cell compared to the P-CCPCH RSCP measured from another cell on a different frequency.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.2.1.2   Minimum Requirements

The relative accuracy requirements in table 8.7.1.2.1.1 are valid under the following conditions:

P-CCPCH RSCP ≥ -102 dBm.

$$\left| \text{P - CCPCH RSCP1} \right|_{in\ dB} - \text{P - CCPCH RSCP2} \big|_{in\ dB} \le 20 dB$$

$$\left(\frac{P - CCPCH\_E_c}{I_o} \right)_{in\ dB} \ge -8 dB$$

$$\left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \ge -13 dB$$

Table 8.7.1.2.1.1 P-CCPCH_RSCP inter-frequency relative accuracy

Parameter	Unit	Accuracy [dB]		Conditions Io [dBm]
		Normal condition	Extreme condition	
P-CCPCH_RSCP	dBm	± 6	± 6	-94...-50

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.2 and A.9.1.1.

8.7.1.2.1.3   Test Purpose

The purpose of this test is to verify that the relative P-CCPCH RSCP measurement accuracy is within the specified limits for the inter frequency case.

8.7.1.2.1.4   Method of test

8.7.1.2.1.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case both cells are on different frequencies. The second Beacon timeslot shall be provided in timeslot 8 for cell 1 and in timeslot 10 for cell 2. P-CCPCH RSCP inter frequency relative accuracy requirements are tested by using test parameters in Table 8.7.1.2.1.2.

Table 8.7.1.2.1.2: P-CCPCH RSCP Intra frequency test parameters

Parameter	Unit	Test 1		Test 2		Test 3	
		Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
DL timeslot number		0	2	0	2	0	2
UTRA RF Channel number		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
PCCPCH_Ec/Ior	dB	-3		-3		-3	
SCH_Ec/Ior	dB	-9		-9		-9	
SCH_t$_{offset}$		0	5	0	5	0	5
OCNS_Ec/Ior	dB	-3,12		-3,12		-3,12	
Ioc	dBm / 3.84 MHz	-75.2	-75.2	-57.8	-54.1	-98.7	-97
Îor/Ioc	dB	5	5	7	2	3	0
PCCPCH RSCP, Note 1	dBm	-73.2	-73.2	-54.8	-55.1	-98.7	-100
Io, Note 1	dBm / 3.84 MHz	-69		-50		-94	
Propagation condition		AWGN		AWGN		AWGN	
NOTE 1: PCCPCH RSCP and Io levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.							

1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.2.1.2.

8.7.1.2.1.4.2   Procedure

1) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

2) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

3) SS shall transmit MEASUREMENT CONTROL message.

4) UE shall transmit periodically MEASUREMENT REPORT messages.

5) SS shall check PCCPCH RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. PCCPCH RSCP power value measured from Cell 1 is compared to PCCPCH RSCP power value measured from Cell 2 for each MEASUREMENT REPORT message.

6) The result of step 5) is compared to actual power level difference of PCCPCH RSCP of Cell 1 and Cell 2.

7) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.2.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 5) and 6) above are repeated.

8) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

9) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.2.1.5   Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.2.1.2 for at least 900 of the measurement reports at each input level in step 4.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 099** | ⌘**rev** | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

*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: ⌘	PCCPCH Measurement Performance	
Source: ⌘	T1/RF	
Work item code: ⌘	TEI	***Date:*** ⌘ 21/05/2002
Category: ⌘	**A**	***Release:*** ⌘ REL-4

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

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

Reason for change: ⌘	Test cases for PCCPCH measurement performance are missing.
Summary of change: ⌘	Added test cases for PCCPCH measurement performance. Includes changes approved at TSG-RAN4 Mtg #23 in R4-020641.
Consequences if not approved: ⌘	Requirements in the core specification would not be tested.

Clauses affected: ⌘	8.7.1

Other specs affected: ⌘	☐	Other core specifications ⌘	
	☐	Test specifications	
	☐	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.7   Measurements Performance Requirements

Unless explicitly stated:

- Measurement channel is 12.2 kbps as defined in TS 25.102 annex A. This measurement channel is used both in active cell and cells to be measured.

- Cell 1 is the active cell.

- Single task reporting.

- Power control is active.

Void.

8.7.1   P-CCPCH RSCP

8.7.1.1   Intra frequency measurement accuracy for 3,84 Mcps TDD Option

8.7.1.1.1   Absolute accuracy requirement

8.7.1.1.1.1   Definition and applicability

The absolute accuracy of P-CCPCH RSCP is defined as the P-CCPCH RSCP meaasured from one cell compared to the actual P-CCPCH RSCP power from the same cell.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.1.1.2   Minimum Requirements

The absolute accuracy requirements in table 8.7.1.1.1.1 are valid under the following conditions:

P-CCPCH RSCP $\geq$ -102 dBm.

$$\left(\frac{P-CCPCH\_E_c}{I_o} \right)_{in\ dB} \geq -8 dB$$

$$- \left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \geq -13 dB$$

Table 8.7.1.1.1.1 P-CCPCH_RSCP absolute accuracy

Parameter	Unit	Accuracy [dB]		Conditions
		Normal condition	**Extreme condition**	**Io [dBm]**
P-CCPCH_RSCP	dBm	$\pm$ 6	$\pm$ 9	-94...-70
	dBm	$\pm$ 8	$\pm$ 11	-70...-50

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.1 and A.9.1.1.1.1.

8.7.1.1.1.3   Test Purpose

The purpose of this test is to verify that the absolute P-CCPCH RSCP measurement accuracy is within the specified limits.

8.7.1.1.1.4   Method of test

8.7.1.1.1.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case all cells are on the same frequency. Cell 1 and cell 2 shall be synchronised, i.e. share the same frame and timeslot timing. The DL DPCH shall be transmitted in timeslot 4 and the UL DPCH shall be transmitted in timeslot 12. The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. P-CCPCH RSCP intra frequency absolute accuracy requirements are tested by using test parameters in Table 8.7.1.1.1.2.

Table 8.7.1.1.1.2: P-CCPCH RSCP Intra frequency test parameters

Parameter	Unit	Test 1		Test 2		Test 3	
		Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
DL timeslot number		0	0	0	0	0	0
UTRA RF Channel number		Channel 1		Channel 1		Channel 1	
PCCPCH_Ec/Ior	dB	-3		-3		-3	
SCH_Ec/Ior	dB	-9		-9		-9	
SCH_t_{offset}		0	5	0	5	0	5
OCNS_Ec/Ior	dB	-3,12		-3,12		-3,12	
Ioc	dBm / 3.84 MHz	-75.7		-59.8		-98.7	
Ior/Ioc	dB	5	2	9	2	3	0
PCCPCH RSCP, Note 1	dBm	-73.7	-76.7	-53.8	-60.8	-98.7	-101.7
Io, Note 1	dBm / 3.84 MHz	-69		-50		-94	
Propagation condition		AWGN		AWGN		AWGN	
NOTE 1: PCCPCH RSCP and Io levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.							

1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.1.1.2.

8.7.1.1.1.4.2   Procedure

1) SS shall transmit MEASUREMENT CONTROL message.

2) UE shall transmit periodically MEASUREMENT REPORT messages.

3) SS shall check PCCPCH_RSCP value in MEASUREMENT REPORT messages. PCCPCH_RSCP power of Cell 1 reported by UE is compared to actual PCCPCH_RSCP power for each MEASUREMENT REPORT message.

4) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, step 3) above is repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, step 3) above is repeated.

5) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

6) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.1.1.5   Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.1.2 for at least 900 of the measurement reports at each input level in step 4.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.7.1.1.2   Relative accuracy requirement for 3,84 Mcps TDD Option

8.7.1.1.2.1   Definition and applicability

The relative accuracy of PCCPCH RSCP is defined as the PCCPCH RSCP measured from one cell compared to the PCCPCH RSCP measured from another cell on the same frequency.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.1.2.2   Minimum Requirements

The relative accuracy requirements in table 8.7.1.1.2.1 are valid under the following conditions:

P-CCPCH RSCP ≥ -102 dBm.

$$\left(\frac{P-CCPCH\_E_c}{I_o} \right)_{in\ dB} \geq -8 dB$$

$$\left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \geq -13 dB$$

$$\left| P\text{-}CCPCH\ RSCP1 \right|_{in\ dB} - P\text{-}CCPCH\ RSCP2 \right|_{in\ dB} \leq 20 dB$$

Relative Io difference [dB] ≤ relative RSCP difference [dB]

It is assumed that the measurements of P-CCPCH RSCP1 and P-CCPCH RSCP2 can be performed within 20ms due to slot allocations in the cells concerned.

Table 8.7.1.1.2.1: P-CCPCH_RSCP intra-frequency relative accuracy

Parameter	Unit	Accuracy [dB]		Conditions	
		Normal condition	**Extreme condition**	**Io [dBm]**	**relative RSCP difference [dbB]**
P-CCPCH_RSCP	dBm	±1	±1	-94...-50	≤2
		±2	±2		2...14
		±3	± 3		>14

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.2 and A.9.1.1.1.1.

8.7.1.1.2.3   Test Purpose

The purpose of this test is to verify that the relative P-CCPCH RSCP measurement accuracy is within the specified limits.

8.7.1.1.2.4   Method of test

8.7.1.1.2.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case all cells are on the same frequency. Cell 1 and cell 2 shall be synchronised, i.e. share the same frame and timeslot timing. The DL DPCH shall be transmitted in timeslot 4 and the UL DPCH shall be transmitted in timeslot 12. The second Beacon timeslot shall be provided in timeslot 8 for both cell 1 and cell 2. P-CCPCH RSCP intra frequency relative accuracy requirements are tested by using test parameters in Table 8.7.1.1.1.2.

    1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.1.1.2.

8.7.1.1.2.4.2   Procedure

    1) SS shall transmit MEASUREMENT CONTROL message.

    2) UE shall transmit periodically MEASUREMENT REPORT messages.

    3) SS shall check PCCPCH RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. PCCPCH RSCP power value measured from Cell 1 is compared to PCCPCH RSCP power value measured from Cell 2 for each MEASUREMENT REPORT message.

    4) The result of step 3) is compared to actual power level difference of PCCPCH RSCP of Cell 1 and Cell 2.

    5) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 3) and 4) above are repeated. After further 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.1.1.2 for Test 3. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 3) and 4) above are repeated.

    6) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

    7) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.1.2.5   Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.1.2.2 for at least 900 of the measurement reports at each input level in step 4.

    NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.7.1.2   Inter frequency measurement accuracy for 3,84 Mcps TDD Option

8.7.1.2.1   Relative accuracy requirement

8.7.1.2.1.1   Definition and applicability

The P-CCPCH RSCP inter-frequency relative accuracy is defined as the P-CCPCH RSCP measured from one cell compared to the P-CCPCH RSCP measured from another cell on a different frequency.

The requirements and this test apply to all types of UTRA TDD UE.

8.7.1.2.1.2   Minimum Requirements

The relative accuracy requirements in table 8.7.1.2.1.1 are valid under the following conditions:

    P-CCPCH RSCP ≥ -102 dBm.

$$\left| \text{P - CCPCH RSCP1} \right|_{in\ dB} - \text{P - CCPCH RSCP2} \Big|_{in\ dB} \le 20 dB$$

$$\left(\frac{P - CCPCH\_E_c}{I_o} \right)_{in\ dB} \ge -8 dB$$

$$\left(\frac{SCH\_E_c}{I_o} \right)_{in\ dB} \ge -13 dB$$

Table 8.7.1.2.1.1 P-CCPCH_RSCP inter-frequency relative accuracy

Parameter	Unit	Accuracy [dB]		Conditions Io [dBm]
		Normal condition	Extreme condition	
P-CCPCH_RSCP	dBm	± 6	± 6	-94...-50

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

The normative reference for this requirement is TS 25.123 [2] clauses 9.1.1.1.2 and A.9.1.1.

8.7.1.2.1.3   Test Purpose

The purpose of this test is to verify that the relative P-CCPCH RSCP measurement accuracy is within the specified limits for the inter frequency case.

8.7.1.2.1.4   Method of test

8.7.1.2.1.4.1   Initial conditions

Test environment: normal, TL/VL, TL/VH, TH/VL, TH/VH; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

In this case both cells are on different frequencies. The second Beacon timeslot shall be provided in timeslot 8 for cell 1 and in timeslot 10 for cell 2. P-CCPCH RSCP inter frequency relative accuracy requirements are tested by using test parameters in Table 8.7.1.2.1.2.

Table 8.7.1.2.1.2: P-CCPCH RSCP Intra frequency test parameters

Parameter	Unit	Test 1		Test 2		Test 3	
		Cell 1	Cell 2	Cell 1	Cell 2	Cell 1	Cell 2
DL timeslot number		0	2	0	2	0	2
UTRA RF Channel number		Channel 1	Channel 2	Channel 1	Channel 2	Channel 1	Channel 2
PCCPCH_Ec/Ior	dB	-3		-3		-3	
SCH_Ec/Ior	dB	-9		-9		-9	
SCH_t$_{offset}$		0	5	0	5	0	5
OCNS_Ec/Ior	dB	-3,12		-3,12		-3,12	
Ioc	dBm / 3.84 MHz	-75.2	-75.2	-57.8	-54.1	-98.7	-97
Îor/Ioc	dB	5	5	7	2	3	0
PCCPCH RSCP, Note 1	dBm	-73.2	-73.2	-54.8	-55.1	-98.7	-100
Io, Note 1	dBm / 3.84 MHz	-69		-50		-94	
Propagation condition		AWGN		AWGN		AWGN	
NOTE 1: PCCPCH RSCP and Io levels have been calculated from other parameters for information purposes. They are not settable parameters themselves.							

1) A call is set up according to the test procedure specified in TS 34.108 [3] clause 7.3.2.3. The RF parameters for Test 1 are set up according to table 8.7.1.2.1.2.

8.7.1.2.1.4.2 Procedure

1) SS shall transmit PHYSICAL CHANNEL RECONFIGURATION message.

2) UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

3) SS shall transmit MEASUREMENT CONTROL message.

4) UE shall transmit periodically MEASUREMENT REPORT messages.

5) SS shall check PCCPCH RSCP value of Cell 1 and Cell 2 in MEASUREMENT REPORT messages. PCCPCH RSCP power value measured from Cell 1 is compared to PCCPCH RSCP power value measured from Cell 2 for each MEASUREMENT REPORT message.

6) The result of step 5) is compared to actual power level difference of PCCPCH RSCP of Cell 1 and Cell 2.

7) SS shall count number of MEASUREMENT REPORT messages transmitted by UE. After 1000 MEASUREMENT REPORT messages have been received from UE, the RF parameters are set up according to table 8.7.1.2.1.2 for Test 2. While RF parameters are being set up, MEASUREMENT REPORT messages from UE are ignored. SS shall wait for additional 1s and ignore the MEASUREMENT REPORT messages during this period. Then, steps 5) and 6) above are repeated.

8) After further 1000 MEASUREMENT REPORT messages have been received from UE, the SS shall transmit RRC CONNECTION RELEASE message.

9) UE shall transmit RRC CONNECTION RELEASE COMPLETE message.

8.7.1.2.1.5 Test requirements

The PCCPCH RSCP measurement accuracy shall meet the requirements in clause 8.7.1.2.1.2 for at least 900 of the measurement reports at each input level in step 4.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

CR-Form-v5

CHANGE REQUEST

⌘   **TS 34.122 CR 092**   ⌘**rev**   **-**   ⌘   Current version: **3.7.0** ⌘

*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:	⌘	Additions and corrections to TDD/TDD Cell Re-selection in CELL_FACH state
Source:	⌘	T1/RF

Work item code:	⌘		***Date:*** ⌘	21/05/2002

Category:	⌘	**F**	***Release:*** ⌘	R99

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>.

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

Reason for change:	⌘	Test cases for cell re-selection in CELL_FACH state are missing. Includes corrections to test case in core specification approved at TSG-RAN4 Mtg #23 in R4-020843.
Summary of change:	⌘	Added test cases for cell re-selection in CELL_FACH state.
Consequences if not approved:	⌘	Conformance test would be inconsistent with core specification.

Clauses affected:	⌘	8.3.4

Other specs affected:	⌘	☐ Other core specifications	⌘	
		☐ Test specifications		
		☐ O&M Specifications		

Other comments:	⌘	

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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.4   Cell Re-selection in CELL_FACH

8.3.4.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.4.1.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.4.1.2   Minimum requirement

The cell re-selection delay shall be less than 2,5 s. The rate of correct cell re-selections observed during repeated tests shall be at least 90%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.4.2 and A.5.4.1.

8.3.4.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in CELL FACH for the single carrier case

8.3.4.1.4   Method of test

8.3.4.1.4.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.4.1.1, 8.3.4.1.2, 8.3.4.1.3, and 8.3.4.1.4.

Table 8.3.4.1.1: General test parameters for Cell Re-selection in CELL_FACH

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1,28	The value shall be used for all cells in the test.
T1		s	15	
T2		s	15	

Table 8.3.4.1.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	Kbps	24,4
Channel symbol rate	Ksps	12,2
Slot Format #	-	0
Frame allocation	-	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table 8.3.4.1.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	20 ms
Type of Error Protection	Convolutional Coding
Coding Rate	½
Rate Matching attribute	256
Size of CRC	16

Table 8.3.4.1.4: Cell specific test parameters for Cell Re-selection in CELL_FACH

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
FACH measurement occasion info		not sent				not sent				not sent			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											

		Cell 4				Cell 5				Cell 6			
Timeslot		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
FACH measurement occasion info		not sent				not sent				not sent			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											

Note: S-CCPCH shall not be located in TS0.

8.3.4.1.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL_FACH.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

h) Repeat steps d) to g) [TBD] times.

8.3.4.1.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 2,5 s.

3) In step g), the UE shall respond on cell 1 within 2,5 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

8.3.4.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.4.2.1   Definition and applicability

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.4.2.2   Minimum requirement

The cell re-selection delay shall be less than 3 s. The rate of correct cell re-selections observed during repeated tests shall be at least 90%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.4.2 and A.5.4.2.

8.3.4.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in CELL_FACH for the multi carrier case.

8.3.4.2.4   Method of test

8.3.4.2.4.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.4.2.1, 8.3.4.2.2, 8.3.4.2.3, and 8.3.4.2.4.

Table 8.3.4.2.1: General test parameters for Cell Re-selection in CELL_FACH

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1,28	The value shall be used for all cells in the test.
T1		s	15	
T2		s	15	

Table 8.3.4.2.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	Kbps	24,4
Channel symbol rate	Ksps	12,2
Slot Format #	-	0
Frame allocation	-	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table 8.3.4.2.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	20 ms
Type of Error Protection	Convolutional Coding
Coding Rate	½
Rate Matching attribute	256
Size of CRC	16

Table 8.3.4.2.4: Cell specific test parameters for Cell Re-selection in CELL_FACH

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	3	9	3	3	9	3	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-70			-70	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			

		Cell 4				Cell 5				Cell 6			
FACH measurement occasion info		not sent				not sent				not sent			
Inter-frequency TDD measurement indicator		TRUE				TRUE				TRUE			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											
		Cell 4				**Cell 5**				**Cell 6**			
Timeslot		**0**		**8**		**0**		**8**		**0**		**8**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
FACH measurement occasion info		not sent				not sent				not sent			
Inter-frequency TDD measurement indicator		TRUE				TRUE				TRUE			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											

Note: S-CCPCH shall not be located in TS0.

8.3.4.2.4.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL_FACH.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

h) Repeat steps d) to g) [TBD] times.

8.3.4.2.5   Test Requirements

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 3 s.

3) In step g), the UE shall respond on cell 2 within 3 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void

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CHANGE REQUEST

⌘	**TS 34.122 CR 100**	⌘**rev**	**-**	⌘	Current version:	**4.3.0**	⌘

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Proposed change affects: ⌘   (U)SIM ☐   ME/UE **X**   Radio Access Network ☐   Core Network ☐

Title:	⌘	Cell Re-selection in CELL_FACH test cases
Source:	⌘	T1/RF
Work item code: ⌘	TEI	***Date:*** ⌘ 21/05/2002

Category:	⌘ **A**		***Release:*** ⌘ REL-4

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>.

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

Reason for change:	⌘	Test cases for cell re-selection in CELL_FACH state are missing. Includes corrections to test case in core specification approved at TSG-RAN4 Mtg #23 in R4-020843.
Summary of change: ⌘		Added test cases for cell re-selection in CELL_FACH state.
Consequences if not approved:	⌘	Conformance test would be inconsistent with core specification.

Clauses affected:	⌘	8.3.4
Other specs affected:	⌘ ☐	Other core specifications ⌘
	☐	Test specifications
	☐	O&M Specifications
Other comments:	⌘	

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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.

8.3.4   Cell Re-selection in CELL_FACH

8.3.4.1   Scenario 1: TDD/TDD cell re-selection single carrier case

8.3.4.1.1   Definition and applicability

8.3.4.1.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the 3,84 Mcps TDD UE.

8.3.4.1.1.2   1,28 Mcps TDD option

Void.

8.3.4.1.2   Minimum requirement

8.3.4.1.2.1   3,84 Mcps TDD option

The cell re-selection delay shall be less than 2.5 s. The rate of correct cell re-selections observed during repeated tests shall be at least 90%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.4.2 and A.5.4.1.

8.3.4.1.2.2   1,28 Mcps TDD option

Void.

8.3.4.1.3   Test purpose

This test verifies that the UE meets the minimum requirement for the cell re-selection delay in CELL_FACH for the single carrier case

8.3.4.1.4   Method of test

8.3.4.1.4.1   3,84 Mcps TDD option

8.3.4.1.4.1.1   Initial conditions

This scenario contains 6 cells operating on the same carrier frequency. The test parameters are given in Tables 8.3.4.1.1.1, 8.3.4.1.1.2, 8.3.4.1.1.3, and 8.3.4.1.1.4.

Table 8.3.4.1.1.1: General test parameters for Cell Re-selection in CELL_FACH

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1,28	The value shall be used for all cells in the test.
T1		s	15	
T2		s	15	

Table 8.3.4.1.1.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	Kbps	24,4
Channel symbol rate	Ksps	12,2
Slot Format #	-	0
Frame allocation	-	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table 8.3.4.1.1.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	20 ms
Type of Error Protection	Convolutional Coding
Coding Rate	½
Rate Matching attribute	256
Size of CRC	16

Table 8.3.4.1.1.4: Cell specific test parameters for Cell Re-selection in CELL_FACH

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	7	9	7	7	9	7	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-66			-66	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
FACH measurement occasion info		not sent				not sent				not sent			

			Cell 4				Cell 5				Cell 6			
I_{oc}	dBm/3, 84 MHz		-70											
Propagation Condition			AWGN											
Timeslot			0		8		0		8		0		8	
			T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number			Channel 1				Channel 1				Channel 1			
PCCPCH_Ec/Ior	dB		-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB		-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}			15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB				-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB		-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm		-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB		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			
Qhyst1$_{s}$	dB		0				0				0			
Treselection			0				0				0			
Sintrasearch	dB		not sent				not sent				not sent			
FACH measurement occasion info			not sent				not sent				not sent			
I_{oc}	dBm/3, 84 MHz		-70											
Propagation Condition			AWGN											

Note: S-CCPCH shall not be located in TS0.

8.3.4.1.4.1.2 Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL_FACH.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

h) Repeat steps d) to g) [TBD] times.

8.3.4.1.4.2 1,28 Mcps TDD option

Void.

8.3.4.1.5 Test Requirements

8.3.4.1.5.1 3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 2 within 2.5 s.

3) In step g), the UE shall respond on cell 1 within 2.5 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

8.3.4.1.5.2   1,28 Mcps TDD option

Void.

8.3.4.2   Scenario 2: TDD/TDD cell re-selection multi carrier case

8.3.4.2.1   Definition and applicability

8.3.4.2.1.1   3,84 Mcps TDD option

The cell re-selection delay is defined as the time from a change of cell levels to the moment when this change causes the UE to camp on a new cell , and starts to send the CELL UPDATE message with cause value "cell reselection" in the new cell.

The requirements and this test apply to the TDD UE.

8.3.4.2.1.2   1,28 Mcps TDD option

Void.

8.3.4.2.2   Minimum requirement

8.3.4.2.2.1   3,84 Mcps TDD option

The cell re-selection delay shall be less than 3 s. The rate of correct cell re-selections observed during repeated tests shall be at least 90%.

The normative reference for this requirement is TS 25.123 [2] clauses 5.4.2 and A.5.4.2.

8.3.4.2.2.2   1,28 Mcps TDD option

Void.

8.3.4.2.3   Test purpose

This test verifies that the UE meets the requirement for the cell re-selection delay in CELL_FACH for the multi carrier case.

8.3.4.2.4   Method of test

8.3.4.2.4.1   3,84 Mcps TDD option

8.3.4.2.4.1.1   Initial conditions

This scenario contains 6 cells and 2 carrier frequencies. The test parameters are given in Tables 8.3.4.2.1.1, 8.3.4.2.1.2, 8.3.4.2.1.3, and 8.3.4.2.1.4.

Table 8.3.4.2.1.1: General test parameters for Cell Re-selection in CELL_FACH

Parameter		Unit	Value	Comment
Initial condition	Active cell		Cell1	
	Neighbour cells		Cell2, Cell3,Cell4, Cell5, Cell6	
Final condition	Active cell		Cell2	
HCS			Not used	
UE_TXPWR_MAX_RACH		dBm	21	The value shall be used for all cells in the test.
Qrxlevmin		dBm	-102	The value shall be used for all cells in the test.
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.
T_{SI}		s	1,28	The value shall be used for all cells in the test.
T1		s	15	
T2		s	15	

Table 8.3.4.2.1.2: Physical channel parameters for S-CCPCH.

Parameter	Unit	Level
Channel bit rate	Kbps	24,4
Channel symbol rate	Ksps	12,2
Slot Format #	-	0
Frame allocation	-	Continuous frame allocation
Midamble allocation	-	Default Midamble

Table 8.3.4.2.1.3: Transport channel parameters for S-CCPCH

Parameter	FACH
Transport Channel Number	1
Transport Block Size	240
Transport Block Set Size	240
Transmission Time Interval	20 ms
Type of Error Protection	Convolutional Coding
Coding Rate	½
Rate Matching attribute	256
Size of CRC	16

Table 8.3.4.2.1.4: Cell specific test parameters for Cell Re-selection in CELL_FACH

Parameter	Unit	Cell 1				Cell 2				Cell 3			
Timeslot Number		0		8		0		8		0		8	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
UTRA RF Channel Number		Channel 1				Channel 2				Channel 1			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t_{offset}		0	0	0	0	5	5	5	5	10	10	10	10
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	9	3	9	3	3	9	3	9	-1	-1	-1	-1
PCCPCH RSCP	dBm	-64	-70			-70	-64			-74	-74		
Qoffset1$_{s,n}$	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			

		Cell 4 TS0 T1	Cell 4 TS0 T2	Cell 4 TS8 T1	Cell 4 TS8 T2	Cell 5 TS0 T1	Cell 5 TS0 T2	Cell 5 TS8 T1	Cell 5 TS8 T2	Cell 6 TS0 T1	Cell 6 TS0 T2	Cell 6 TS8 T1	Cell 6 TS8 T2
FACH measurement occasion info		not sent				not sent				not sent			
Inter-frequency TDD measurement indicator		TRUE				TRUE				TRUE			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											
UTRA RF Channel Number		Channel 1				Channel 2				Channel 2			
PCCPCH_Ec/Ior	dB	-3	-3			-3	-3			-3	-3		
SCH_Ec/Ior	dB	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
SCH_t$_{offset}$		15	15	15	15	20	20	20	20	25	25	25	25
PICH_Ec/Ior	dB			-3	-3			-3	-3			-3	-3
OCNS_Ec/Ior	dB	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28	-4,28
$\hat{I}_{or}/I_{oc}$	dB	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
PCCPCH RSCP	dBm	-74	-74			-74	-74			-74	-74		
Qoffset1$_{s,n}$	dB	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			
Qhyst1$_s$	dB	0				0				0			
Treselection		0				0				0			
Sintrasearch	dB	not sent				not sent				not sent			
Sintersearch	dB	not sent				not sent				not sent			
FACH measurement occasion info		not sent				not sent				not sent			
Inter-frequency TDD measurement indicator		TRUE				TRUE				TRUE			
I_{oc}	dBm/3,84 MHz	-70											
Propagation Condition		AWGN											

Note: S-CCPCH shall not be located in TS0.

8.3.4.2.4.1.2   Procedure

a) The SS activates cell 1-6 with T1 defined parameters.

b) The UE is switched on.

c) A call is set up according to the generic set-up procedure specified in TS 34.108 [3] subclause 7.4.2 to place the UE in CELL_FACH.

d) After 15 s, the parameters are changed as described for T2.

e) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

f) After another 15 s, the parameters are changed as described for T1.

g) The SS waits for CELL UPDATE message with cause value "cell reselection" from the UE.

h) Repeat steps d) to g) [TBD] times.

8.3.4.2.4.2   1,28 Mcps TDD option

Void.

8.3.4.2.5 Test Requirements

8.3.4.2.5.1 3,84 Mcps TDD option

1) In step d), after the UE has responded on cell 1, it shall not respond on any other cell (cell selection).

2) In step e), the UE shall respond on cell 1 within 3 s.

3) In step g), the UE shall respond on cell 2 within 3 s.

For the test to pass, the total number of fulfilled test requirements 2) and 3) shall be more than [FFS]% of the cases.

NOTE: If the above Test Requirement differs from the Minimum Requirement then the Test Tolerance applied for this test is non-zero. The Test Tolerance for this test is defined in clause F.2 and the explanation of how the Minimum Requirement has been relaxed by the Test Tolerance is given in clause F.4.

Void.

8.3.4.2.5.2 1,28 Mcps TDD option

Void.

CR-Form-v5

CHANGE REQUEST

⌘	**TS 34.122 CR 093**	⌘**rev**	**-**	⌘	Current version:	**3.7.0**	⌘		

*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:	⌘	Power Control in the Downlink for HCR
Source:	⌘	T1/RF
Work item code: ⌘		**Date:** ⌘ 21/05/2002

Category: ⌘ **F**   ***Release:*** ⌘ R99

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>.

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

Reason for change: ⌘		Requirement has been changed in 25.102 and definition and applicability section is missing.
Summary of change: ⌘		New section added for definition and applicability. Removed requirement that BLER performance be met 90% of the time and added note. Reference for this is tdoc R4-0210021, approved at RAN4 Mtg #23.
Consequences if not approved:	⌘	Test case would not be consistent with core specification.

Clauses affected:	⌘	7.5

Other specs ⌘ ☐ Other core specifications ⌘
affected: ☐ Test specifications
☐ O&M Specifications

Other comments: ⌘

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

7.5   Power control in downlink

~~Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the network while using minimum downlink power.~~

7.5.1   Definition and applicability

Power control in the uplink is the ability of the UE to converge to the required link quality set by the network while using minimum uplink power. The requirements of this test shall apply to the UTRA-TDD UE.

7.5.~~1~~2   Minimum requirements

For the parameters specified in table 7.5.1.~~a~~ the average downlink $\hat{I}_{or}/I_{oc}$ power shall be below the specified value in Table 7.5.~~2~~1.~~a~~ more than 90% of the time. BLER shall be as shown in Table 7.5.~~2~~1.~~b more than 90% of the time~~. Downlink power control is ON during the test.

Table 7.5.1.~~a~~: Test parameters for downlink power control

Parameter	Unit	Test 1
$\dfrac{DPCH\_E_c}{I_{or}}$	dB	0
I_{oc}	dBm/3,84 MHz	-60
Information Data Rate	kbps	12,2
Target quality value on DTCH	BLER	0,01
Propagation condition		Case 1
DL Power Control step size, Δ_{TPC}	dB	1
Maximum_DL_power *	dB	0
Minimum_DL_power *	dB	-27
*Note: Refer to TS 25.224 for description and definition		

Note: DL power is relative to P-CCPCH power.

Table 7.5.~~2~~1.~~b~~: Requirements for downlink power control

Parameter	Unit	Test 1
$\hat{I}_{or}/I_{oc}$	dB	8,0
Measured quality on DTCH	BLER	0,01±30%

The reference for this requirement is TS 25.102 [1] clause 8.5.1.

7.5.~~2~~3   Test purpose

To verify that the UE receiver is capable of converging to the required link quality set by the network while using as low power as possible.

7.5.~~3~~4   Method of test

7.5.~~3~~4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.

2) Set up a call according to the Generic call setup procedure.

3) RF parameters are set up according to table 7.5.1.a.

4) Enter the UE into loopback test mode and start the loopback test.

5) SS signals to UE target quality value on DTCH as specified in table 7.5.1.a. SS will vary the physical channel power in downlink according to the TPC commands from UE, and at the same time measure BLER. This is continued until the target quality value on DTCH is met, within the minimum accuracy requirement.

See TS 34.108 [3] and TS 34.109 [4] for details regarding generic call setup procedure and loopback test.

7.5.4.2   Procedure

1) After the target quality on DTCH is met, BLER is measured. Simultaneously the downlink $\hat{I}_{or}/I_{oc}$ power ratio averaged over one slot is measured. This is repeated until adequate amount of measurements is done to reach the required confidence level.

2) The measured quality on DTCH (BLER) and the measured downlink $\hat{I}_{or}/I_{oc}$ power ratio values averaged over one slot are compared to the limits in table 7.5.2.b.

7.5.4.5   Test Requirements

a) The measured quality on DTCH does not exceed the values in table 7.5.2.b.

b) The downlink $\hat{I}_{or}/I_{oc}$ power ratio values, which are averaged over one slot, shall be below the values in table 7.5.2.b more than 90 % of the time.

CR-Form-v5

CHANGE REQUEST

| ⌘ | **TS 34.122 CR 103** | ⌘**rev** | **-** | ⌘ | Current version: | **4.3.0** | ⌘ |

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:	⌘	Power Control in the Downlink for HCR
Source:	⌘	T1/RF
Work item code:	⌘	**Date:** ⌘ 21/05/2002
Category:	⌘ **A**	**Release:** ⌘ REL-4

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

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

Reason for change:	⌘	Requirement has been changed in 25.102 and definition and applicability section is missing.
Summary of change:	⌘	New section added for definition and applicability. Removed requirement that BLER performance be met 90% of the time and added note. Reference for this is tdoc R4-0210021, approved at RAN4 Mtg #23.
Consequences if not approved:	⌘	Test case would not be consistent with core specification.

Clauses affected:	⌘	7.5

Other specs affected:	⌘	☐ Other core specifications ⌘
		☐ Test specifications
		☐ O&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 ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

7.5   Power control in downlink for 3,84 Mcps TDD Option

~~Power control in the downlink is the ability of the UE receiver to converge to the required link quality set by the~~
~~network while using minimum downlink power.~~

7.5.1   Definition and applicability

Power control in the uplink is the ability of the UE to converge to the required link quality set by the network while
using minimum uplink power. The requirements of this test shall apply to the UTRA-TDD UE.

7.5.~~1~~2   Minimum requirements

For the parameters specified in table 7.5.1.~~a~~ the average downlink $\hat{I}_{or}/I_{oc}$ power shall be below the specified value in
Table 7.5.~~2~~1.a more than 90% of the time. BLER shall be as shown in Table 7.5.~~2~~1.b ~~more than 90% of the time~~.
Downlink power control is ON during the test.

Table 7.5.1.~~a~~: Test parameters for downlink power control

Parameter	Unit	Test 1
$\dfrac{DPCH\_E_c}{I_{or}}$	dB	0
I_{oc}	dBm/3,84 MHz	-60
Information Data Rate	kbps	12,2
Target quality value on DTCH	BLER	0,01
Propagation condition		Case 1
DL Power Control step size, Δ_{TPC}	dB	1
Maximum_DL_power *	dB	0
Minimum_DL_power *	dB	-27
*Note: Refer to TS 25.224 for description and definition		

Note: DL power is relative to P-CCPCH power.

Table 7.5.~~2~~1.~~b~~: Requirements for downlink power control

Parameter	Unit	Test 1
$\hat{I}_{or}/I_{oc}$	dB	8,0
Measured quality on DTCH	BLER	0,01±30%

The reference for this requirement is TS 25.102 [1] clause 8.5.1.

7.5.~~2~~3   Test purpose

To verify that the UE receiver is capable of converging to the required link quality set by the network while using as
low power as possible.

7.5.~~3~~4   Method of test

7.5.~~3~~4.1   Initial conditions

Test environment: normal; see clauses G.2.1 and G.2.2.

Frequencies to be tested: mid range; see clause G.2.4.

1) Connect SS, multipath fading simulator and an AWGN source to the UE antenna connector as shown in figure A.10.

2) Set up a call according to the Generic call setup procedure.

3) RF parameters are set up according to table 7.5.1.~~a~~.

4) Enter the UE into loopback test mode and start the loopback test.

5) SS signals to UE target quality value on DTCH as specified in table 7.5.1.~~a~~. SS will vary the physical channel power in downlink according to the TPC commands from UE, and at the same time measure BLER. This is continued until the target quality value on DTCH is met, within the minimum accuracy requirement.

See TS 34.108 [3] and TS 34.109 [4] for details regarding generic call setup procedure and loopback test.

7.5.~~3~~4.2   Procedure

1) After the target quality on DTCH is met, BLER is measured. Simultaneously the downlink $\hat{I}_{or}/I_{oc}$ power ratio averaged over one slot is measured. This is repeated until adequate amount of measurements is done to reach the required confidence level.

2) The measured quality on DTCH (BLER) and the measured downlink $\hat{I}_{or}/I_{oc}$ power ratio values averaged over one slot are compared to the limits in table 7.5.2~~1.b~~.

7.5.4~~5~~   Test Requirements

a) The measured quality on DTCH does not exceed the values in table 7.5.2~~1.b~~.

b) The downlink $\hat{I}_{or}/I_{oc}$ power ratio values, which are averaged over one slot, shall be below the values in table 7.5.2~~1.b~~ more than 90 % of the time.